


L I B R A R Y

B O S T O N
U N I V E R S I T Y



 COLLEGE
BUSINESS 
A D M I N I S T R A T I O N

Class No.	* 658.7
Book No.	W62
Acc. No.	25750
Date	8-30-37

Boston University
College of Business Administration

Thesis
Industrial and Municipal Purchasing

by
James Daniel Schooley
A.B., Boston College 1935

Submitted in partial fulfillment of
the requirements for the degree of

MASTER OF BUSINESS ADMINISTRATION

1937



Digitized by the Internet Archive
in 2014

<https://archive.org/details/industrialmunici00whoo>

8-30-37

25750

*658.7

W62

TABLE OF CONTENTS

PART ONE

	Page
Introduction	1
Historical background	2.
Development	4.
What Industrial Purchasing Is	8.
The Body	13.
Purchasing's relation to production	14.
Ascertainment of the need	15.
Assurance of quality	16.
Need for specifications	17.
Standardization	20.
Assurance of timely supply	26.
Means of assurance	28.
The contact with planning	31.
Rush orders	33.
Purchasing equipment	35.
Salvage, scrap and waste	40.
Fundamental procedure	45.
Purchasing's relation to inspection	48.
Importance of inspection	50.
Methods	51.
Benefits	52.
Arguments against control by purchasing	60.
Fundamental procedure	64.
Purchasing's relation to incoming traffic	67.
Supplying production	67.
Necessity of cooperation	68.
Traffic study a science	70.
Fundamental procedure	71.
Purchasing's relation to marketing	74.
Planning	76.
Reciprocity	76.
Fundamental procedure	77.

Purchasing's relation to finance	78.
Fiduciary control	82.
Terms, credits, discounts	83.
Inventory control	86.
Overbuying	87.
Storage	81.
Maximum and minimum inventory	82.
Speculative purchasing	83.
Economic lot sizes	87.
Fundamental procedure	101.
Purchasing's relation to law	108.
Contracts	110.
Patent infringements	113.
Warranties	113.
Mechanics of purchasing procedure	122.
Organization	122.
Adapting the staff	123.
Personal duties of purchasing agent	125.
Duties of the personnel	124.
Measuring purchasing efficiency	142.
Municipal purchasing	146.
Recent appreciation	148.
Procedure	149.
Advantages	151.
Disadvantages	152.
Conclusion	155.
Centralization	157.
Limitations of the purchasing function	162.
Aims and objectives	165.
Bibliography	182.

BACKGROUND.

Barter and trade combine to form one of the oldest functions known to man. In the known records of the earliest civilization of any race or people can be found chronicled allusions to barter and trade. And the importance of the function is entirely natural and understandable. Since time immemorial man has needed things which could be supplied by his fellow-man. It makes no difference whether today he wishes to purchase a hat for five dollars or that some pristine ancestor wanted to trade an animal's pelt for some necessity. The fundamentals underlying the desire and the transaction are the same. It is a fact that explorers into Africa today carry salt with them for which the natives of the jungle would exchange gold or diamonds - and willingly. Further it is a known and historical fact that the American Indians sold the Island of Manhattan to our forefathers for approximately twenty-five dollars in trinkets. It was not that the Indians held New York in such low monetary regard; rather it was that the handful of baubles held as much appeal to them as possession of Manhattan.

However, until the Middle Ages the question of the intricacies of buying and selling had no cause for existence. Prior to that period barter and trade were an integral part of community life. Peoples or tribes who were grouped together

generally engaged in the production of the things they needed as a unit. The Middle Ages saw the establishment of the town market which could be found then in almost every town. Townspeople and the folk from the surrounding country used to gather together on specified days and at given places for the exchanging of their products. It is odd that today our truck gardeners still load up their vehicles with produce and come into town with the rising sun for the purpose of disposing of their goods. Owners of grocery stores, buyers from hotels, brokers and even thrifty housewives are generally on hand to purchase their commodity.

Gradually, with new ideas and new years, the art of buying and the art of selling grew apart into distinct phases of marketing. Though remaining related always, each soon developed into an individual science. To discuss this gradual change, or to attempt to discuss why a commodity is worth so much to some people and less to another, or even to expatiate upon the influence of mass production and industrial expansion in regulating the price scale would lead us too far afield. We are concerned with the purchasing function as a science and with the adoption of modern purchasing methods and not with the economics of supply and demand.

As it is, we are to prone in our text-books to lionize

the purchasing function. By that, I mean that the procurement function in developing has merely kept pace with the progress in industrial management as a whole. The reasons for the slowness of the development of the purchasing function are largely due to purchasing itself. It did not take advantage of its opportunities at once and it was slow in raising industrial buying to a high plane. After all, it was up to purchasing in the beginning to prove to industrial management that purchasing had a definite place in the execution of business. Once it did prove itself, however, its influence was highly beneficial to smooth-running organization.

DEVELOPMENT.

Industrially, the United States is a young nation. In fact, within the average lifetime of the reader of this book, the United States has become the outstanding industrial nation of the world. Prior to 1914 the United States was regarded as a nation of tremendous potentialities, but the actual realization of its greatness was a matter of an indeterminate future. Yet within the short space of four years this country became able to dictate terms for world peace, and it emerged from the maelstrom of the World War the recognized financial and industrial leader of the world with all the responsibilities and complexities which such leadership entails.

American managers were willing to adopt any methods that speeded up production. The advent of scientific management was the answer to many a perplexing problem.

"Thus in the short space of thirty-five years the old order of industrial management has largely passed from the stage. Traditional methods of processing goods have given way to the trained production engineer. Purchasing is done on a basis of a knowledge of coolly calculated needs and a wide knowledge of raw materials and raw material markets. Old methods were no longer adequate if industrial growth was to continue."¹

It was not that we lacked leadership in the field of scientific leadership prior to the World War but rather that industrial conditions themselves did not lend themselves to ready and radical changes. Profits were good due to high demand. Production was steady due to the need of reconciling supply with demand. Industrially our nation was young and robust, rich in resources and quick in profits. Industrial managers were content.

In fact, and in direct relation to purchasing itself, Frederick W. Taylor recognized as early as 1916 the need for sounder, more scientific methods in industry when he declared in his treatise on "The Principles of Scientific Management",

1

Robbins, E.C., "Industrial Management", pp. 3-14. McGraw-Hill Co. New York: 1933. (Extracts)

This commanding position has not been attained by the industrial subjugation of our general working population for quite aside from what one may or may not believe respecting the particular industrial system under which we operate, there can be no gainsaying the fact that a general rise in the standard of living took place in the United States in the last generation.

"As might be expected in 1900 the average American factory was managed by so-called rule of thumb even though the task of management had reached extensive proportions. Purchasing agents bought raw materials on 'hunches', and production managers processed goods in the traditional manner even though such methods were inefficient, laborious and wasteful. Few persons had the temerity to believe that a business unit was susceptible to scientific analysis and control.

"Until 1900 the average business concern could, with a reasonable application of the rule-of-thumb methods make a profit. The demand of the domestic market was greater than home manufacturers could supply, and a well-developed protective tariff kept foreign manufacturers at arm's length. By the end of the last century, however, competition of large-scale producers, and the growing power of the 'trusts', coupled with the growing mechanization of industry, were creating a condition whereby traditional methods of production were no longer adequate.

"The adoption of scientific purchasing could readily in the future, double the productivity of the average concern... It will cut production costs to the point where selling prices may be reduced and still wider distribution gained because of the larger markets which will be opened by lower prices."

At first glance it might appear that Mr. Taylor viewed scientific purchasing as a cure-all for every industrial malady, but the general tenor of his work reveals that he could see the new principles of scientific industrial management taking firm form and he wished to point out that the potentialities of a sound purchasing policy should not be overlooked in the general development. Within six years, or approximately in 1922, purchasing technique had been highly developed and except for slight refinements and adjustments has not changed radically since then. It is equally true, however, that other departments have since undergone revolutionary changes and revisions even within the last ten or twelve years, so that it became highly necessary for the purchasing department to adjust itself to new relationships and contacts with these departments.

It is also shown in the latest available census

returns that American manufacturers spent approximately 51 billion dollars for raw materials in 1935.¹ This is no sum to trifle with, and the spending of it today is supposed to take place only after the most scientific principles of industrial purchasing have been invoked. It can be easily seen then that purchasing is one of the major fixed functions in the activities of that vast and complex structure which we call business.

Any business concern demands of the purchasing agent today that,

1. He procure all its needs of such quality as is adequate to the need.
2. That these materials be on hand at all times and in such quantities that no large amount of capital will be needlessly tied up, nor on the other hand that an abrupt rise in the price of supplies might cause an equally abrupt rise in the cost of production.
3. That service and uninterrupted supply be guaranteed so that he will have at all times complete control of the quality, quantity, cost, delivery and utility of such needs.

WHAT INDUSTRIAL PURCHASING IS, AND HOPES TO BE.

¹

U. S. Census Reports, P. 157. U. S. Department of Commerce: 1936.

What then is Industrial Purchasing and what does it hope to do? Industrial Purchasing is nothing more or less than the application of common-sense buying methods to business. It is not a panacea for our economic ills but merely a small part of the solution.

Purchasing is the procuring of materials, supplies, machines, tools and services required for the equipment, maintenance and operation of a business. The Purchasing Department is the department entrusted with this duty. The function of the Purchasing Department is to procure them at an ultimate cost consistent with the economic conditions surrounding the item being purchased; safeguarding the standard of quality and continuity of service; and to establish and maintain the company's reputation for fairness and integrity.

1. It is a primary function. Proper sales cannot be made unless materials being used in manufacture or resold are bought at an ultimate cost at least as low as that obtained by competitors.

2. Efficient operation of any business, manufacture or resale, depends upon proper turnover of investment. The Purchasing Department must arrange its purchases so as to insure receipt of proper material when wanted in sufficient quantities to maintain production or shipment; at the same time, it must

not increase the investment beyond that needed as a factor of safety.

3. By its close contact with the producing world, the purchasing department is in a position to advise its company on:

- a. New materials which may be used to advantage as substitutes for materials in use.
- b. Possible new lines to be added.
- c. Changes in trends, either in prices or other factors that will affect the sales of the company.
- d. Its ability to make or destroy good will in the business world with which it deals.

Its contacts with vendors, market trends and manufacturing and marketing policies in the industries make it possible for this department to contribute invaluable help in framing plans, whether for initiation of new products, scheduling of production or determination of marketing policies.¹

It is obvious, however, that some concerns in industry are somewhat small so that the purchasing function becomes a matter of practical routine peculiar to that individual concern. Although the principles of scientific industrial purchasing are to be followed, the entire organization is on a minimized scale so as to make a study of the small concern impractical. We are

¹

Alford, L. P., "Cost and Production Handbook," p. 343.

New York: Ronald Press Co., 1934.

concerned in this thesis with the study of industrial purchasing when it is an obvious and necessary integer of organization.

Proceeding on that basis, we realize that the Purchasing Department is allied with the Production Department in any large company. This probably is the most interdependent alliance of all the functions. The purchasing agent is interested in securing the materials necessary for production in the proper quantity, of the proper quality, at the proper time. Having purchased such material he must make sure it is up to specification by inspection.

The purchasing agent is also responsible for the timely delivery of such supplies so that he must keep a constant eye upon incoming traffic and transportation.

A competent buyer is vitally interested in the sales department so that he will know at all times how the finished product of his company is selling. This gives him a better grasp of production's probable future requirements and aids him greatly in planning future purchases. This is particularly true of concerns which experience seasonal spurts or slumps in consumption.

Since the primary cause for the existence of a highly organized purchasing department is obviously economy and the resultant profits through efficient buying, it is only natural

that the department have an alliance with the Finance Department. This becomes more obvious when we realize that the purchasing agent often must suggest and enforce budgetary control of purchases and requirements; plan inventory control and proper supervision of stores and secure the maximum in cash discounts and credit arrangements.

Finally, since the purchasing agent is in charge of expending quite a portion of the company's money, it is of paramount importance that his knowledge of law enable him to avoid any legal entanglements detrimental to his company's interests. By that, I mean that he is responsible for drawing up proper contracts between his own company and the vendor; securing adequate insurance protection of deliveries; avoiding patent infringements.

This then is what we intend to discuss. We shall try to find out what modern management demand on purchasing means in the relationships between the purchasing department and other departments within the organization. We shall try to determine the nature of these contacts and the manner in which the industrial purchasing agent tries and hopes to carry out these contacts. Finally, we shall try to picture what the proper fulfillment of these relationships will mean to the company as a whole.

1/11 2/0.

I. PURCHASING'S RELATION TO PRODUCTION.

Since the relation between procurement and production is the most obvious of all the alliances of the purchasing function, we shall begin with a review of the significance of the purchasing function in relation to production.

In the days when purchasing was a less developed function in industry, the superintendent of production was assumed to be the only man interested in the ascertainment of the needs of production. He, himself, or one or more foremen under his supervision, were wont to do either all or special parts of the buying. It was a natural assumption at the time that no one could know the needs of production as well as the Production Manager. However, the installation of scientific industrial purchasing proved the folly of such a system, because the saving of only one-tenth of one cent per hundred pounds of material might, in the course of a year, lead to appreciable savings.

Traditionally, the purchasing agent had been attached to the production department in a minor capacity. Experience has shown, however, that Production Managers could not assume the burdens of both production and purchasing and be equally competent in, or fair to, both. The following facts will show how the purchasing department and the pro-

duction department by close coordination can work to their mutual advantage and to the ultimate benefit of the company.

Ascertainment of the need.

In relation to production the purchasing agent, through the production manager, or through close alliance with the planning department, asks himself the following questions:

1. What does the production department need? In more cases than would formerly be admitted, the purchasing agent will know by direct contact with the stores department that he has the material on hand and that fulfillment of a requisition will mean merely the transfer of the item from stock to production. By keeping the necessary and proper amounts of supplies on hand the purchasing agent will effect a tremendous saving in time and contribute largely to the smooth running operation of the production department.

In those cases when the need must be fulfilled by purchase, the purchasing agent will ask: 2. How much of this material does the production department need, This may sound a trifle odd in the face of the fact that no one knows better what he wants and how much of it than the production manager. However, there is an economic point here which was formerly ignored. It is this. Suppose a production manager were in the habit for many years, of ordering 5000 tons of an item every three months. The purchas-

ing agent through the planning department knows that the schedule calls for the use of this item throughout the coming year. The purchasing agent also knows through close scrutiny and knowledge of the raw material market that there is to be a substantial rise in the cost of this commodity within two months. He is then in possession of two salient facts, namely that he is to use 20,000 tons of this item within the year and that in the near future an abrupt rise in the price of this commodity will cause an increase in the cost of production to his own company. Thus instead of ordering 5,000 tons he may order 10,000 tons, or even the entire year's supply. He can do this and store the surplus at small cost, or place a forward order for 20,000 tons with the stipulation that 5,000 tons be delivered to him at three month intervals. In the latter case the production manager will receive his 5,000 tons every quarter and still the cost of production is protected against a certain increase. Apply this phase of proper ascertainment of the need to various other materials and supplies and you will find the distinct advantages of scientific industrial purchasing in this field.

Assurance of quality.

There should also be forwarded to the purchasing agent from the production department an accurate statement of the character of the commodity desired. It should not be necessary to remark that a good purchasing agent should not buy except

when he knows exactly what is wanted. This leads to another advantage, that of the assurance of the quality of the requirements. In years gone by, in many instances the primary task of the industrial buyer was the purchase of goods at the lowest possible price. The purchasing director's function was conceived as the receiving from some department of the company a demand for a certain amount of supplies, the quality of which was to be designated for him. A rock-bottom price was the major consideration. Today, however, Howard T. Lewis, as an exponent of the scientific in industrial purchasing says, "The fact is that the procurement officer is concerned with price last and not first."¹

The term "quality" in its meaning to the modern purchasing agent is in itself misleading. Ordinarily, to speak of buying on a basis of quality is to suggest buying a high grade or the finest quality. This definition is not what the modern purchasing agent reads into the term. The best quality from the buyer's point of view is that quality which is best suited to the particular needs of the production department within his own company. It may happen in many cases that the highest quality is demanded, but it very often occurs that a medium or even a low quality of supplies is adequate to his needs. To fail to understand this seeming paradox is to misunderstand the insistence of the modern purchasing agent upon quality.

The need for specifications.

1

"Industrial Purchasing," p. 83. New York: Prentice-Hall, Inc. 1933

Obviously, there can be no set routine for the purchasing agent to follow in determining what is the sure quality for a given item of purchase. Each case represents a different problem with all event questions. However, scientific industrial purchasing has taught the purchasing agent to employ three fundamentals which work in all cases.

First, for incidental and small lot buying, it is entirely proper to put faith in products and sources of supply whose reliability has been proven.

Secondly, the study must and should be complete and comprehensive when the cost of purchasing represents a large sum in any particular product. Here a very important phase of scientific purchasing is involved. In, through, close association with the production department the purchasing agent is able to realize the exact specifications and worth of an item involved, he may often be able to suggest an alternate brand or at times even a change in the specifications that would not alter the value of the item to the production manager, but would result in vast savings in the purchase of that particular brand of supplies.

It, however, the purchasing agent should change specifications without consulting the proper departments, he would cause inter-departmental friction even though his revisions seem to him to be practical and economical. Quoting E. F. Gushee, "If the production manager is consulted as to possible changes in design or specification of an article used in large quantity by the company, and is acquainted with the fact that the revision will save hundreds or thousands of dollars in the course of a year, he will gladly join with the purchasing agent to make the saving. Even if the suggestions are impracticable from production's standpoint, he may find some other means of revisions so as to enable the purchasing agent to make the saving."¹

This money-saving phase of management was illustrated when the purchasing function was subordinate to the production department. Naturally, the production manager was so intent upon securing enough material at the right time, that he had no chance to delve into the possibilities of economy that could be effected by revision of specifications or changes in quality.

Third, the purchasing agent should realize that until his recommendations are approved, the current specificat-

¹

"Scientific Purchasing," p. 62. New York: McGraw-Hill Co., 1932.

ions alone are operative. However, the advantages of insistent demand upon proper specification of quality from the requisitioner which we shall soon discuss, have been proven to be so numerous by scientific industrial practice, that one of the largest corporations in America has placed the following notice in the offices of those concerned:

"The purchasing agent is responsible for the purchase of all materials and supplies. A demand signed by the head of a department shall be sufficient authority for the purchase of materials, only when in the opinion of the purchasing agent they are absolutely necessary for the execution of departmental duties without further specification."

Standardization of purchase specifications.

Any company faced with a wide diversity and quantity of purchases may easily find that the formation of specifications may soon become a full-time job for some member of the organization. Thus an invaluable aid has been rendered to industry by the definite establishment of three recognized sources from which a buyer may derive specifications.

1. Specifications may be set up by the using department in joint consultation with the purchasing agent. Yet to

1

Twyford, H.B., "Purchasing," p.37. New York: Van Nostrand Co. 1927.

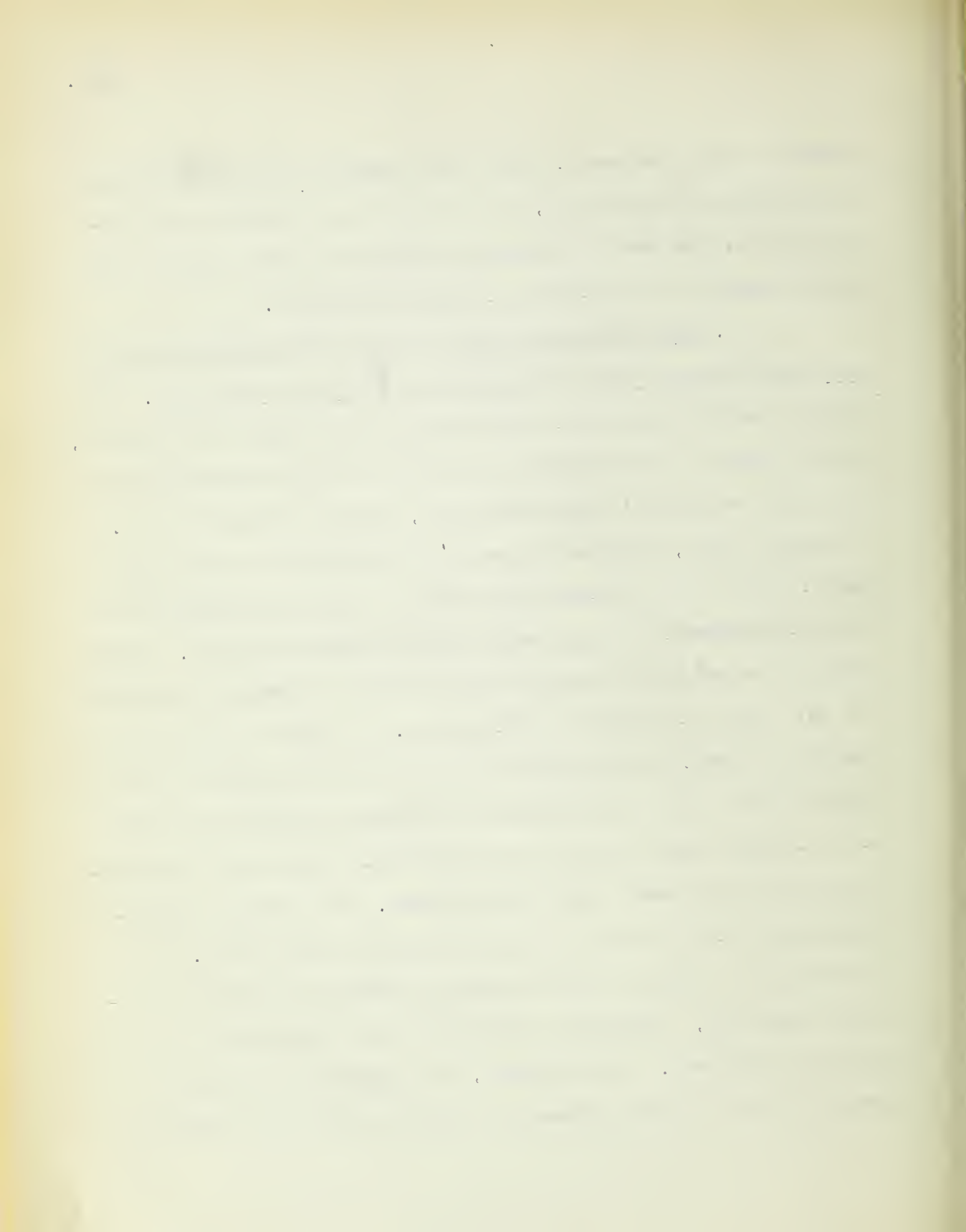
2. Much of the data in this section relies upon facts contained in: Alford, L.P., "Cost and Production Handbook," pp.321-22. New York: Ronald Press Co., 1934. Lewis, H.T., "Industrial Purchasing," pp.98-105 New York: Prentice-Hall, Inc., 1933.

me this method, unless dictated by circumstances, is the least desirable of the three sources of specifications. It entails conference between the purchasing agent, who is not technically conversant with the physical and chemical composition of the company's supplies, and a requisitioner who may not be conversant with the technical manner in which the properties or qualities of any given material are reduced to blue-prints or specification. It may mean the use of a technical engineer who must devote his time to a study of the duties of both the requisitioner and the purchasing agent in regard to formation of specification. This course of creating specifications has been eliminated to a large degree by either and both of the remaining sources of specification.

2. The purchasing agent may use those specifications of supplies as set up by the vendor. This is a decided improvement over the first source but it has weaknesses which cause it to fall short of the third method of formation of specification. It calls for the study and sanction of such vendor specifications by the requisitioner who must here act in a technical capacity. It may tend to bind the purchasing agent to one source of supply which furnishes those most agreeable and adaptable to the company's policies and demands. Since there is a

tendency among vendors to make such specifications a matter of individual selling policy, it results in a variety of specifications for the same material wherein each vendor stresses the individualities or qualities of his own product.

3. The purchasing agent may use the specifications of nationally known technical societies or of the government. The actual practice and usual procedure is for a buyer to formulate, on the basis of the foundation laid down by the governmental or technical 'societies' recommendations, his own specifications. In recent years, various engineering societies and commercial associations have devoted a good deal of time and attention to the establishment of such basic standard specifications. Among them may be mentioned the American Society for Testing Materials and the American Standards Association. In 1918 the American Society for Testing Materials and other national associations organized the American Engineering Standards Society to serve as a clearing house through which national standards of specifications for purchases could be developed. The Society was re-organized in 1928 as the American Standards Association. It consists of 45 member bodies composed chiefly of national technical societies, industrial associations and departments of the Federal Government. As indicated, its purpose is to provide means by which various groups can cooperate to avoid duplica-



tion of specification, and thus prevent conflicting results, and to decide whether standards submitted by other organizations meet with a national consensus of opinion. For approval as "American Standard," 90% of the standards council must vote favorably on a specification.

The governmental agencies have cooperated closely with these organizations and yet have operated independently in the setting up of their own specifications. Specifications most commonly known are those promulgated by the U. S. Department of Commerce and are commonly known as Commercial Standards. These specifications are established through voluntary cooperative effort of producers, distributors and consumers under the auspices of the Federal Bureau of Standards. The steps employed in establishing a commercial specification are briefly as follows: Any industrial group or individual purchasing agent through his company may request the cooperation of the Bureau of Standards which makes no charge for its work, in the establishment of a commercial standard. In initiation of the work, the proponent group is expected to assume certain responsibilities such as the selection of the specification, the preparation of the tentative draft, attendance at preliminary hearings and the supplying of data and information. The Bureau then conducts a preliminary survey of all available standards and specifica-

tions. On this basis, the proponent group formulates a tentative specification of a purchase as a starting point for further action. This may take the form of minimum measurements, tolerances, construction, chemical composition or method of manufacture. This is followed by a preliminary conference of the proponent group to consider the acceptability of the purchase specifications from the points of view of the purchasing agents, vendors or producers. Verbal acceptance at this hearing is not sufficient and consequently upon the final signed acceptance of at least 65% of the production or consumption or purchase by volume, a circular letter is issued announcing the date upon which the commercial standard specification for the given item or items becomes effective.

Thus, the matter of specification has been taken care of for the purchasing agent without taxing his energy beyond the necessity for research into, or study of, those groups furnishing the specification standards particularly to his company's needs. The methods used and the sources of standard purchase specifications are available to any purchasing agent. It is up to him to select the method, source and modification suitable to company policies, exigencies and standards.

Advantages of standard specifications.

The points in favor of the purchasing agent's insistence

upon proper specifications are these:

1. Proper specifications are evidence that definite thought and careful study have been given to the need for which the material is intended and to the peculiar and particular qualities of the material which are demanded to satisfy the need.

2. They are of definite value to the purchasing agent who wishes to buy the identical materials from a number of sources of supply, either because no one manufacturer possesses the facilities for supplying the total demands of the purchasing agent, or because he considers it good policy for his company in matters of reciprocity to split his order among various sources. A little clarification of this latter remark will make the meaning obvious. Suppose the purchasing agent confined his purchases of a certain material to one company. A sudden strike, fire, or other Act of God, might render the vendor suddenly incapable of supplying the purchasing agent. The finding of another source of supply might entail such a delay in time or degree of price differential that the purchasing agent's production department will suffer a slowing up of its schedule, if not also an increase in the cost of production. By splitting the order among various and satisfactory vendors, the purchasing agent minimizes his chances of having an Act of God simultaneously render all his sources of supply ineffective.

3. Purchase on a basis of specification tends toward

the insurance of more adequate competition among vendors, which ultimately means lower prices to the purchasing agent. The more complete the specifications, the more certain is the purchasing agent that all the vendors are bidding upon the same product with no chance to plead ignorance of the nature of the material bid upon. Obviously, and finally, since the drawing up of specifications means an outlay of money, however small, it should never be employed unless the savings are to outweigh the cost of operation.

Assurance of timely supply.

Again quoting W. N. Mitchell, "If there were no uncertainties in business, executive control would be a simple matter. Every combination of business conditions could be foreseen and the action taken could be accurately planned and executed."¹ The purchasing manager who worked under such ideal conditions would be confronted by no unknown variables. His past experience would be a complete guide for the present and future action, and management would be reduced to a matter of mere routine.

Needless to remark no such conditions ever exist in business. The purchasing agent, (as indeed must other executives of management) must grapple with such problems as estimating the effect of probable variations in the matter of routine which, when reduced to dollars and cents, might mean a distinct disadvantage to his company. Thus it is that scientific industrial

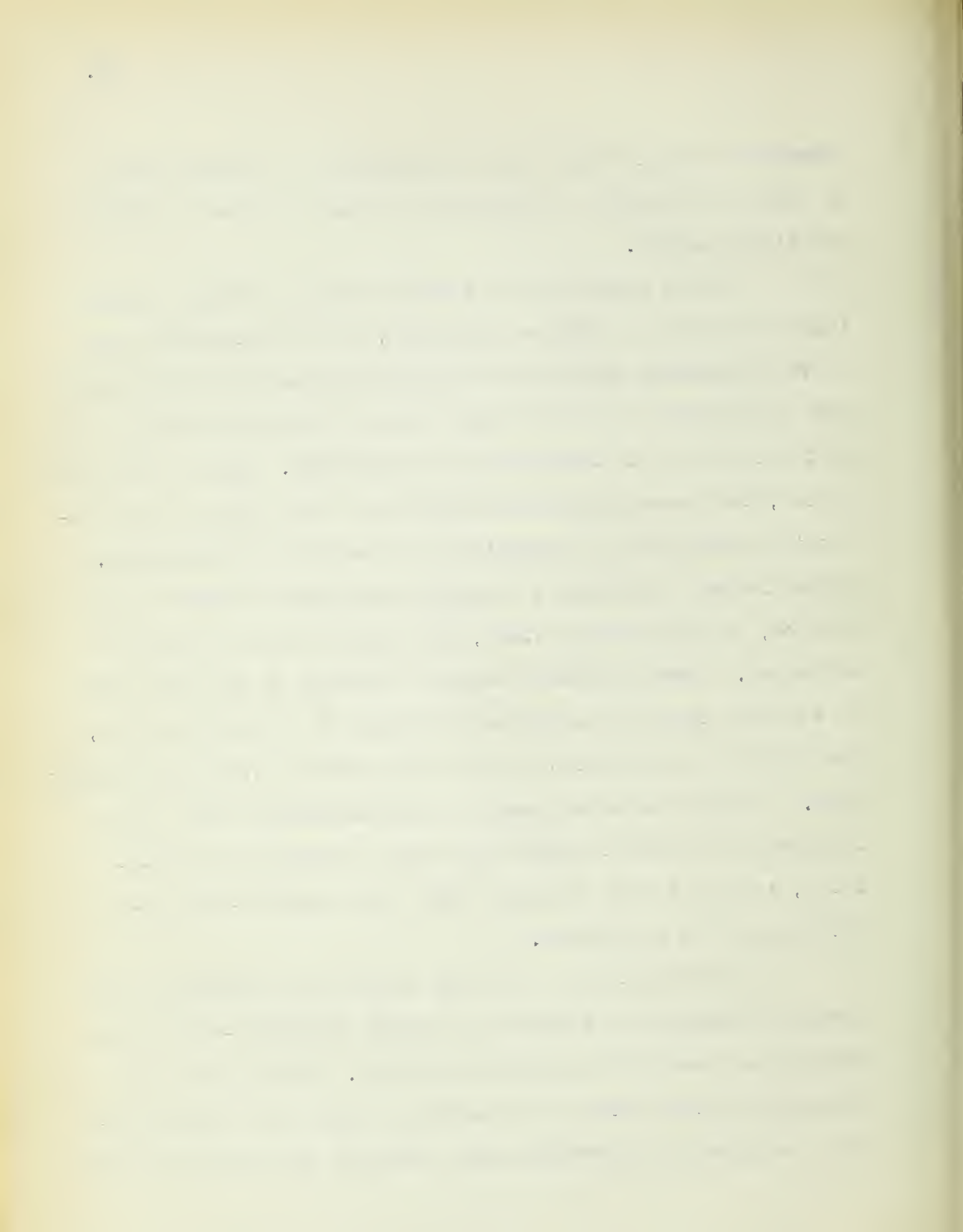
1

"Purchasing," p.244. New York: Ronald Press Co., 1927.

purchasing teaches that a most influential and integral part of quality is service - the matter of the assurance of steady and timely supply.

Since production in industry today is highly mechanized and brooks no delay or deterrent, it is the essential duty of the purchasing agent in his relation to the production department that never at any time shall there be an unjustifiable delay in the operation of the production department. True it is to say almost, that even justifiable delays are looked upon by the production department as incompetency on the part of purchasing. There are many purchases of supplies that must be made at the time of, or immediately after, the need for such material is expressed. When production requires material or equipment and is counting upon the use of such material at a specified time, the duty of the purchasing agent is to meet the required delivery time. It might be advantageous to the purchasing agent from a standpoint of price to place the order a month or six months later, but the saving in price would not compensate for the interruption to production.

Consideration of the time element in purchasing must always be tempered by the point of major importance-having the material on hand when production wants it. Thus a close and intelligent union between the purchasing agent and the production and planning departments will acquaint the purchasing agent



with the schedule of operations for months ahead. So close must this union be, that many large companies, notably the Stewart-Warner Corporation, have placed the purchasing agent in charge of the planning department. This does not imply that the production and planning departments are responsible to the purchasing department, but rather, in these instances, that the purchasing agent has been made responsible for his relations with them, and for simplifying and supplying their needs.

Means of assuring supply.

Cognizance of the need for continuity of uninterrupted supply on the part of the purchasing agent is not the end itself but only the means to the end. The purchasing agent must avail himself of any or all of the three accepted means of insuring timely supply. These are:

1. Proper inventory control which we shall discuss at great length under the chapter, "Inventory Control." Here, however, it is essential to note what L. P. Alford says concerning close contact between the purchasing agent and the stores department in order to insure steady supply. "Beyond ordinary contacts these two departments have other interests in common, the most principal of which are those of inventory control and the determination of proper order quantities so as to insure steady and timely supply. The stores department must keep the purchasing agent informed as to the rate of use, stock on hand etc., in

order that the purchasing agent may buy correctly and have a continuous flow of material reaching stores in time for the need.¹"

Thus, every requisition from stores to the purchasing department should contain all such information about stock on hand, rate of use and known future requirements, as will enable the purchasing department to place its order with the vendor for the most desirable quantity and proper delivery. On the other hand, the purchasing department should inform the stores department about prospective changes in market conditions or price levels so that the stores department may anticipate or regulate its requirements so as to insure steady supply at good prices. Constant application to these duties of close contact on the part of both departments will soon resolve them into routine matters accomplishing much in insuring steady supply and costing nothing in the way of extra effort.

2. The schedule plan for purchases is a somewhat new idea as explained by Alford. "The schedule plan for purchases used regularly now is one of the newer methods which has grown to a position of prominence among purchasing practices. This has been developed on account of the great need of reducing investments in stock and insuring adequate delivery and uninterrupted continuity of supply. Essentially it consists in giving vendors approximate estimates of purchase requirements over a period of time in the future, thus placing them in a

1

Alford, L.P., "Cost and Production Handbook," p.350.
New York: Ronald Press Co., 1934.

position whereby they will be able to anticipate orders and be prepared to fill and deliver them when received."²

The Westinghouse Electric and Manufacturing Company goes a step beyond this in order to effect minimum inventory and uninterrupted supply. It expects its source of supply to have its future requirements ready for delivery when the purchase order ultimately reaches the vendor in the future. Of course, it notifies the vendor ahead of time what its future requirements will probably be, but still it expects the vendor to be actually ready for the order when it comes. I quote a portion of their future requirement letter: "We are arranging this to give our suppliers approximate estimates of our future requirements, with the thought in mind that by doing this, we will place you in a position to anticipate our orders by having ready for timely delivery, the materials which we are likely to need in the immediate future. We realize that this means that you will have to take an ordinary business risk in carrying our future supplies on hand, but as regular customers of yours we do not feel that we are asking anything out of the ordinary when we suggest that you have ready for delivery that material which we intend to, and have been used to, purchase from you."

This seems like a reasonable plan and an excellent means to insuring steady delivery except in those instances where the material to be furnished by the vendor is the result

of a process peculiar to the purchasing agent's company and might result in a dead loss to the vendor were contingencies to arise that would force the purchasing agent to fall below his estimated requirements. Yet the application of the schedule plan as far as possible will enable the purchasing agent to maintain a method or practice which may go far in solving his problem of uninterrupted supply.

3. The records of past performances as far as delivery periods are required are of inestimable aid to the purchasing agent. These records as taken from actual freight bills and shipment reports will show how long it takes vital materials to arrive from the vendor to the purchasing agent. His own traffic department may be of great aid in estimating approximate amount of time required for the delivery of those products about which the purchasing agent has no information. The best thing to do in these cases, however, is to ask the vendor for estimates as to length of time required for material to reach the purchasing agent's company after the order has actually reached the vendor. This information, properly recorded and filed, will give the purchasing agent a veritable library of information as to the actual time needed for the delivery of any item, so that he may regulate his purchases accordingly.

The contact with the planning department

Close alliance with the production and planning departments will enable the purchasing agent to anticipate the needs of production. This is necessary because of the purchasing agent's relation to stores control. It becomes part of the purchasing agent's work to regulate the requisitions of the production department so that the needs will be standardized in character. It is apparent also, that since the purchasing agent is to be in close contact with the market and price trends, that forward orders may be placed without jeopardizing the prompt delivery so essential to production.

In cases where production is not for stock, as in the confectionery companies, and where the materials needed for production are perishable, then the purchasing agent must keep in close contact with the planning department so that supplies will be delivered directly from the vendor to the production department. In this case the supplies will not pass through the stores department, and the purchasing agent, through the receiving department, must keep close watch on the promptness and quality of deliveries.

"Rush" Orders.

Since we mentioned above that business must be subject to all sorts of emergencies, it is only natural that due to lack of foresight the production department may often find itself in

need of "rush" orders. However, it is the duty of scientific purchasing not to eliminate but to curtail the amount of "rush" orders. If unfortunate experiences are met with continually in one or two points, necessitating continual "rush" orders, then it is the duty of the purchasing agent to step in and demand an investigation into the difficulties leading to numerous emergency orders. The purchasing agent is well aware that prompt deliveries by the vendor are sometimes impossible without due notice. In cases like this, the fact that the purchasing agent may have various sources of supply selling him the same item will be of high benefit to him. By calling any or all of them he may eventually find one who can make immediate delivery.

In summarizing the assurance of quality let us say that the purchasing agent must be very alert to make quality consistent with price, and quality consistent with the requirements of production. But his major objective is smooth-running production and whenever he must choose between an obviously lower price and steady timely supply, he must sacrifice the saving to the ultimate good of the production department.

Purchasing production equipment.

Today production throughout the world, and especially in America, has become highly mechanized. The introduction and perfection of machinery have combined to make output a fine

and exacting science. Machinery was introduced to permit enormous rises in the amount of production, and further improved to hold the cost of that output at a reasonable minimum without sacrifice to quality. Practically every concern in the country is dependent upon a physical plant in the daily course of production, so that the purchase, upkeep and service of machinery has become increasingly important.

To deny that the production engineer is the final authority on matters of mechanical equipment is folly. No one in the company should be better acquainted with what a machine can and should be than he. No one should be more confident of the strength, soundness, inherent properties and utility of the company's machinery than he. And despite this cost in knowledge, and further despite the company's recognition of these facts, scientific management today is wont to put much weight in the opinion of the purchasing agent. In companies where machinery constitutes a major item of expenditure, they will often employ a production engineer, make him well versed in the mechanical equipment of the company, and finally submit him to an extensive training in scientific industrial purchasing. Then he is thoroughly schooled they will make him production engineer in charge of purchasing mechanical equipment.

This may seem like an extremely needless expense, but when you consider that the cost of mechanical equipment presents

a large and vital expenditure of company money with no visible return, then it is a logical outlay toward future profit.

This state of purchasing authority in regard to buying equipment is the phase of ordinary purchasing practice which is much discussed. It would be as logical then to dwell for a moment upon the accepted practices in regard to such purchasing as contained in a survey made for that very purpose. Summarized, the study indicated that the number of persons who function in the purchase of mechanical equipment ranged from one to nineteen; the average was nearly five. "In less than 1% of the transactions were all the buying functions performed by one person alone; in only 3% were two persons involved; in the most cases from three to five persons functioned, which showed that the purchase of equipment represented to most companies a matter in which very heads should grow in conference for the ultimate good." "The general superintendent appeared in 53% of the purchases, the plant engineer in 40%, the department head in 37%, the president in 34%, the general manager in 21%, the finance head in 16% and so on. The purchasing agent appeared in 9% of all the transactions."

The need for production equipment centered largely in the department of production head himself, for he suggested the need in 55% of the cases and it was no reflection upon the pur-

chasing agent that he gave weight to an expression of need in only 4% of the cases. His duty is primarily one of purchase only after a need has been determined. After the need was recognized however, it was passed on for approval to either the general superintendent, the plant manager, the president or the purchasing agent. " Since this was a technical problem the general superintendent led in approving purchases of production equipment in 30% of the transactions, while the purchasing agent appeared in 10% of the cases. There was a tendency to allow him to suggest approval of the need to be authorized in the larger companies more than in the smaller ones.³ But the approval of the need had to be generally authorized by someone who knew whether the money for such purchase were available or not.

Once the need was approved, the selection of the type of machinery was the next consideration. The general superintendent led in this transaction with the purchasing agent allowed weight in an appreciable number of instances, and generally in the larger companies again. "Once the type was approved, however, the make of equipment fell to the decision of the purchasing agent in 33% of the cases and he was exceeded in authority, and only slightly, by the general superintendent himself. He greatly outweighed the production manager who appeared as weight in only 21% of the cases. In cases where the equipment was to cost less than \$1000.00, the purchasing agent had

more weight and nearly was on a parallel with the general superintendent." ⁴ When the make had been approved, the actual and final decision was mostly made by the general superintendent in 33% of the cases. " However, it is interesting to note that the final decision rested with the purchasing agent as a close second in 25% of the transactions while the production manager functioned in only 14% ⁵ of the cases."

In all this survey, the figures are interesting when it is pointed out in an addendum that the purchasing agent increased in weight of authority as the company increased in size. It is also important to note how many persons are admittedly engaged in the purchase of production equipment so that the purchasing agent must mentally equip himself to measure up to the authority which is given his opinion in such transactions.

The actual figures in this section are compiled from data in:
 Lewis, F. T., "Industrial Purchasing," pp. 340-42. New York:
 Prentice-Hall, Inc., 1933.

1. Ibid. p. 340.
2. Ibid. p. 341.
3. Ibid. 342.
4. Ibid. p. 342.
5. Ibid. p. 342.

0	0	2	0
2	2	2	3
1	0		3
2	2	3	2
0	0	1	0

The purchasing agent's interest.

The production manager is interested in securing the best possible machinery from a capacity standpoint. This includes large output of quality products, substantial construction of the machine and ease of operation. The purchasing agent however, steps in here and takes up where the production manager left off. His is not the desire to merely aid production, but to work toward the ultimate good of the company as a whole. The purchase of machinery and equipment presents factors to him that the production manager may know of but seldom think about.

The points to be considered.

Let us be specific. Is the first cost unjustifiably low or justifiably high? In other words is the particular type of machinery which the production manager desires economical in power consumption? Obviously to buy a machine that ate up the profits in unreasonable upkeep is folly.

Is it so constructed and guaranteed as to need few repairs? If such repairs are necessary, who will make them? Here I think is the major factor in the consideration of a certain type of machine. It is only natural that some time a machine will suffer a breakdown. In the event of such happening, how long will it take to secure the proper parts for replacement? Are the parts interchangeable with other parts of different

makes of machine? If so, this advantage will present various and nearby sources of supply, and through competition, lower prices.

Is the machine designed for convenient operation? Obviously, if the mechanism is such that it requires a skilled attendant at all times, it takes on an added cost. It means also in case of the illness of the regular attendant that another skilled attendant must be on hand or nearby in order to facilitate the ease of production.

What of the machine's adaptability? Does it fit in with the present equipment? With slight changes or modifications could it be made to do other types of work also? The purchasing agent must also think of little things like floor space. Is the machine desired, compact and economical of floor space?

Is the machine in its operation fatiguing? In event that it is, is the machine properly safeguarded against accident to the operator? To others? What of the fire hazard? Will it cost much for insurance? By this time the purchasing agent has brought out points that the production manager had not fully considered. But scientific industrial purchasing has taught them to the purchasing agent as essential elements and factors in the purchase of machinery. So the purchasing agent knows the wisdom of such investigation into the purchase of machinery.

But even if the production manager is able to answer all these questions to the satisfaction of the purchasing agent, the latter still has two points to be considered that may be insurmountable. Is any other company working at present to perfect such a machine as we are now considering for purchase? If this be so, then our machine will be outtroded upon introduction of the perfected model. And everyone knows that nothing becomes so quickly obsolescent in production as machinery.

Finally, how would it be to apply to some company like the United Shoe Machinery Corporation for example, and undertake to lease one of their machines? True, besides a monthly renting fee it would be necessary to pay a fraction of a cent as royalty on each piece produced. But still if production were forced down, the royalty would be correspondingly lowered. Then again, service and upkeep would be maintained by the lessor with no inconvenience to the production manager.

After due consideration the production manager may agree that, if possible, the better method would be to lease the machine in mind. Although such questions cannot be asked in respect to the purchase of other types of equipment such as belt-
ing, etc., the general tenor of the factors is the same.

Salvage, scrap, and waste.

One of the primary, if not the chief, refinements in purchasing technique since it took its present practical form

in 1938, has been the huge and systematic economies effected by scientific buying. This being so, it is only natural that the purchasing agent should have a special interest in the problems of handling scrap and salvage and of disposing of waste.

When the art of purchasing was in its embryonic stages, Mr. Cushman claims,¹ "The junk pile swallowed a large amount of industrial profits." Miscellaneous scrap, unclassified and carelessly mixed; defective or spoiled materials; machinery and equipment supplanted by more modern apparatus; all these found their way to the junk pile to be disposed of as quickly and as well as possible. The conception prevailed that scrap material as itemized above, was merely junk and a source of irritation to industry.

But the purchasing agent realized that here was a weak link in purchasing technique. He began to look upon scrap, waste and salvage as by-products of production and therefore possible sources of recognized revenue. He did not regard it as practical to spend two dollars in operation costs in order to dispose of one dollar of scrap, but he did believe and proved, that to sell scrap at less than its reasonable marketable value is analogous to selling the company's manufactured products at less than the cost of production.

Before proceeding further, let me say that it is

1

"Scientific Purchasing," p.115. New York: McGraw-Hill Co., 1938.

40.
recorded that Earle A. Hunt, purchasing agent for the General Motors Corporation, turned his company and a large into the huge sum of one-quarter million dollars in less than two years. He did it by involving the principles of scientific industrial purchasing.

But they mean to the purchasing agent.

Purchasing did two things in solving into the scrap problem in industry. It first proved that such a problem should rest in the hands of the purchasing department. In supporting this contention the purchasing agent claimed that his contact with outside concerns together with his knowledge of materials and prices would be of irreparable value in finding desirable outlets and profitable customers for the scrap.

He then proceeded to accurately define scrap, salvage and waste. Scrap he labeled as applying to material or equipment which is no longer serviceable and must be discarded by the company. Waste he defined as material or supplies which had lost their original form through spoilage, breakage, carelessness or obsolescence. Salvage to the purchasing agent meant not merely scrap as previously, but materials which might be reclaimed, reprocessed and sold at a reasonable price as a by-product, or even upon occasion, returned to the production process in his own company.

¹ Binmore, John, C., "Purchasing Principles and Practices," New York: Prentice-Hall, Inc., 1927.

What purchasing has done about them.

Having been given, then, the right to the supervision and disposal of these 'by-products,' what did the purchasing agent do about them? He did three things:

(1) He set out to reclaim for the company's own use, every single item that could be economically adapted, repaired or reconditioned. His foremen were to judge what part of the material could be used 'as is' by another department in the company. If the foremen decide they cannot use the material 'as is' the purchasing agent wants to know if a slight modification would make it worth while to any of them. Specifically, waste lumber from one department may be sawn to lengths exactly suited to another department. Again, as in the case of mechanical equipment, a few dollars worth of welding may restore a machine to service or modify it in such a manner that another department might find a use for it.

(2) If the supplies and salvage cannot be used in any manner by his own company, the purchasing agent, if he considers the cost of reclamation as too excessive, classifies them as scrap and proceeds to search for profitable outlets. Through experience the purchasing agent may have discovered that by keeping the scrap in storage at certain times of the year it would prove profitable in the face of a rising market for such scrap. However, he should never occupy storage space for the

game of playing a 'hunch' about such markets.

In looking for outlets, the purchasing agent will seek to determine whether the scrap 'as is' could be utilized by other companies. If this be true, a saving in time and a marked increase in profit would be his because nothing would remain but to ship the scrap 'as is' to the interested party.

It may happen that a slight change in reclamation may make the scrap of value to another company. The purchasing agent must then determine if it would be profitable to make this change himself with a resultant larger selling price, or if it would be more practical to sell it at a lower price in allowance to the buyer for the charges or salvage he must make. In most cases it is found that to let the customer do his own reclamation is the best policy although a slightly higher profit might be made in the alternate instance.

After every one of the methods of disposing of the scrap has been exhausted, the purchasing agent may put the scrap into the hands of a broker or else invite those interested in such scrap to call at his company and quote a price on it. The former will, to earn his commission, make an earnest effort to aid the purchasing agent in finding a profitable market. If the purchasing agent finds it a better policy to

let companies bid for the scrap after inspecting it upon the premises, you can be sure that he will make it a condition of the contract that the scrap is sold f.o.b. his company. This leaves the task of transportation and handling squarely up to the bidder.

(3) Since, theoretically, there should be no scrap or waste in industry, (although this is practically impossible) the purchasing agent may find upon inspection, that some scrap is due to defects in the material itself. In such cases he will have no difficulty in receiving credit for these defective materials from the vendor. This is due to the fact that the vendor does not want to lose the good-will of the purchasing agent and is often, too willing even, to make concessions.

From the preceding paragraphs it has been learned that the problem of scrap is a vital one in industry and a more modern refinement of purchasing practice. The profits to be made from careful and competent disposal of salvage materials can be very large. It then becomes one of the important duties of good purchasing to impress upon all divisions of the company the need for systematic handling of salvageable materials so that the greatest possible profit, or conversely, the lowest possible loss may be sustained by the company.

Fundamental procedure.

In actual practice, the greatest demand made upon the

purchasing agent by the production department is for supplies. The system which a concern may use in executing this demand may vary according to company policy, but the basic fundamental procedure is a standard step for all purchasing agents. For every purchase which the production department may call upon the purchasing agent to make there should be a requisition or statement of the need. We have seen that the purchasing agent in his contact with the planning department may at times anticipate the need of the requisitioner in order in, more than seems to be required in certain instances. However, it must be said that ordinarily the purchasing agent does not question the actual requisition for supply itself, but at the same time must watch for errors and be on the alert to check possible mistakes in judgment by others. The problem of what is wanted and when is the problem of the requisitioner and the latter is assumed to know what he wants and how much of it. Such aid can be given to the purchasing agent by the management by limiting the number of persons eligible to authorize the purchase requisition. This will generally restrict the authority for requisition to the head of the using department.

The mere purchase requisition itself is not an order for purchase necessarily. It may result in the transfer of stock from the stores department to the requisitioner. Occasionally, such requirements may be met by the transfer of surplus stock from one using department to another. Eventually, of course, a continuous flow of such requisitions to the stores department

will necessitate the procurement of new supplies, which is merely another way of saying that sooner or later such a requisition will become an order to purchase new supplies.

Thus such a requisition form should contain essential information. L.P. Alford states that a proper requisition should contain the following information:

1. Accurate description of goods wanted.
2. Quantity needed.
3. Date when needed.
4. Account to which it is to be charged.
5. Authority for such requisition.
6. Point of delivery within plant. (1)

This may suggest at quick glance that the requisition form might be ponderous, but a glance at the actual blank which we have listed shows that the form can be very simple and still contain all this information so vital to the records of the purchasing department.

This then is the logical and first step in basic purchasing procedure. We have discussed the matter of specifications which will be a description of the goods wanted. The quantity needed is a matter for the using department to determine as is the date of need. The accounting department is naturally interested in the department to be charged for the supplies requisitioned, whether such goods be bought outright or merely transferred from stock. The receiving department is interested in the point of delivery to facilitate handling. Thus the company policy as to the need for knowledge of this transaction will determine the number of copies of the requisition that are needed so that the proper departments will receive one for their records.

1. "Cost and Production Handbook," p. 333. New York: Ronald Press Co., 1934.

DATE	PURCHASE REQUISITION CLASSIFIED—UNCLASSIFIED STORES				ORDER NO.
ORDER FROM:— NAME					DELIVER TO
ADDRESS					CHARGE
QUANTITY	MATERIAL				PRICE
	REQUIRED FOR				
SHIP VIA:		TERMS:—		F. O. B.	
QUANTITY ON HAND	QUAN. USED	TO	193	USED BY	ISSUED BY
LAST ORDER FROM					APPROVED BY
DATE	QUANTITY	PRICE			APPROVED BY PURCH. MGR.

Fig. 1. The Purchase requisition or statement of the need.

2. INSPECTION OF INCOMING MATERIALS.

It would be unwise for the purchasing agent to assume that because he had insisted upon certain quality and specifications in his purchase order the materials would be 'ipso facto' up to standard. It is obviously necessary, therefore, for scientific purchasing to have some means whereby it can be sure of the quality of the materials received from the vendor. Adequate equipment for the inspection of purchases upon receipt is therefore imperative to good organization.

In companies where an adequate inspection department exists, it is usually found under the engineering division. Such inspection is a necessary check upon the quality standards in regard to processing and production. Its purpose is an inspection into processing whereby material is followed through manufacturing as an adjunct to guaranteeing the quality of the company's finished product.

The purchasing agent's interest in the inspection division is different, although definite and direct. He wants to know if the vendor has actually furnished the material specified in the purchase order and if not, he hopes to have the imperfection discovered for him before such defective material goes into process if possible. Hence, whenever we use the term 'inspection' in this chapter, it refers to the inspection of incoming supplies and purchases alone.

We have spoken at some length of the importance of specifications and we have seen the ultimate, definite benefits to be derived from the proper enforcement of them. We have further seen that purchasing is to regard such standardization as an integral part of proper procedure. And yet, having developed thus far, it has not gone the entire distance in adequately assuring itself that such specifications are being adhered to on the part of the vendor.

The most complete specification, however, is not sufficient and unavailable assurance that the proper quality will be forthcoming. This is the phase that has been overlooked, or rather, under-developed. To devote much time, engineering and research effort, (to say nothing of the expense incurred by such effort) to determine what is the best quality for a given purpose and subsequently to make no move to determine whether the supplies conform to specifications is not efficient purchasing.

Importance of inspection.

If purchasing admits, and it does, the need and importance of adequate specifications, then conversely it must acknowledge the importance of properly inspecting and rejecting incoming shipments. It should not be assumed by the purchasing agent that the reliability of established sources of supply is a guarantee that they will religiously adhere to the specifications even after they have bid upon and accepted them. Granting

that such concerns have no intent of violating the agreement, there always exists the possibility of errors in manufacture or processing which are discoverable only by test or inspection. Unfortunately, too, there are some ostensibly reputable concerns which are not wise to shipping specifications if they know that the chances of detection are slight.

To guard against such contingencies, and even to protect vendors from unscrupulous bidding on the part of a concern which intends to shirk, inspection and testing should be realized as proper and strong allies of effective purchasing itself. And still it is an acknowledged fact that such inspection and testing have been slighted in industry. Inspection of vendor's materials has not kept pace with the general development of purchasing.

Naturally, some concerns have no need of elaborate inspection because of the very nature of the purchases they use, but a reasonable expenditure for such testing or examination will usually pay large dividends. Necessarily, the amount of the investment in equipment for this inspection will be regulated by the volume and diversity of the company's purchases. The only hard and fast rule is to provide for adequate inspection of purchases according to the needs.

Continued and favorable development of the purchasing function is certain, however, to eventually prove the in-

importance of inspection as a logical corollary of specification. Adequate specification, as has been shown, shows that the purchasing agent knows exactly what he wants. Adequate inspection insures that he will get exactly what he ordered. These are twin principles of scientific industrial purchasing and therefore a purchasing department which is not equipped for both essentials has a wilful weakness in its organization.

Because the weakness characterizes many industrial today, the purchasing agent who seeks to increase the efficiency of his department, with an eye to the ultimate good accruing to his company, is likely to find the greatest opportunity in the field of inspection. To the purchasing agent the subject of such inspection and testing is of such fundamental importance as to justify a brief discussion of the theory on which it is based and an outline of its purpose and objective. The growing appreciation of the waste due to the use of defective materials, and the misuse of good materials, has increased the importance of the scientific inspection of incoming supplies.

Perhaps the retarded development of inspection can be traced to the fact that the importance of testing purchases is underestimated. This is understandable because the results of inspection are all negative and therefore, intangible. Careful day-to-day inspection of incoming supplies acts as a

scientific check upon the carelessness or unscrupulousness of the vendor. Because any and all variations are caught and corrected, there will be little immediate opportunity to effect any large or tangible economy; but if the inspection division relaxes its vigilance, then the waste from this source will increase at once. Adequate testing facilities, efficient inspection and a true grasp of the importance of such inspection are responsible in a large manner for the high standard of much of the equipment, material and supplies now being sold.

Too much stress cannot be laid upon the importance of testing the quality of products before use. In some countries, on railroads, the prior inspection may result in the saving of lives. For example, when steel rails are delivered to such a company, any defects found before they are put into use will be the means of preventing possible accidents. The mere fact that such rails are furnished by a reputable vendor does not insure against any manufacturing or processing defects.

There is no real place in industry for the rule-of-thumb method of inspection. The strength or quality of deliveries varies and cannot be left to guesswork or even to intelligent opinion alone. The quality of the deliveries must be checked, since experience shows that no two articles, even from the same lot are identical; that is, quality varies continually and always tends to go below the desired standard. A

guard against imperfect quality can be effected by establishing certain limits beyond which variations may not go without violating specification. Inspection, therefore, can judge and measure the quality actually produced and thus keep it within the limits deemed allowable in conformation to manufacturing and correction practices.

But the real importance of adequate inspection lies in the fact that not only does it judge, but also does it measure. It judges by mentally comparing the furnished product with the specifications. This is the final action and the one on which the decision as to acceptance or rejection is based. It measures by actually comparing the furnished product with the standard specified. In inspection the workmanship is judged; dimensions, strength, composition and utility are measured. Judgment is personal and could vary or err, but measurement is impersonal and not subject to error.

It is natural that if inspection is competent, waste accumulating over a period of time and due to imperfection of purchases will be reduced to a minimum. In discussing salvage and scrap we learned that purchasing could, in some instances, determine whether the waste were due to defective materials and subsequently could obtain a refund or credit for these materials. But finding this out costs money and, though justifiable in those instances, is unwarranted if the inspection department carries out its work conscientiously.

Finally, most articles can be definitely inspected upon a judicial or measurable basis. The ultimate aim, therefore, is to properly tag supplies as to their consistency with workable quality. To do less is to spend time in specifically designating the quality needed by a company and then do nothing to check that quality in the actual material.

Methods of inspection of incoming materials.

There are three definite methods of inspection employed in industry. These methods can be briefly listed as sampling, laboratory analysis and retesting. In concerns where the inspection of material has to need to be highly scientific or comprehensive due to the nature of the purchases, the method of sampling may be perfectly adequate. This phase of inspection is based upon the mathematical theory of probabilities. It involves the assumption that a sample taken at random from a lot is probably representative of the entire lot; or that a portion of material is probably like the remainder of that material. Sampling, therefore, is obviously an economical method of inspection and usually safe if experience proves that the results can be trusted. It is necessary, though, to have safeguards which can be applied to this method and prevent probable error. The importance of beginning right is obvious and if the first piece from a lot of new purchases is subject to actual processing tests and supplemented with samples taken from the middle and end portions of the lot the chances are favorable that a very adequate idea of

the quality of the entire lot is obtained. Adding to this, the inspector may take samples at random from the lot and keep subjecting them to actual process so that the discovery of infirmities and probable defects will be made before the lot is through stores and waiting for processing. It is also necessary to subject the lot in stores to sampling from time to time as an added safeguard.

If there are any doubtful points along the line of inspection the same samples can be sent through the inspector's hands without his knowledge so that he must give an opinion of the quality of the same sample more than once. Uniformity of decisions on these twice-sampled portions will do much to prove the adequacy of the method. In other words, the concern realizes that the method of probability is subject to error and all safeguards must be taken to rule out the human element as much as possible since in those concerns there is no call for the more scientific method of laboratory analysis.

There can be no denial of the fact, however, that when justifiable, the method of laboratory analysis is the most scientific. This is a result of the fact that quality may be best determined by a service test and therefore indirectly by simulated service. Laboratory analysis rests on the existence of easily applied standards, such as weights, measures, hardness, chemical composition and so forth. The laboratory can

simplify and standardize the colors of materials, for instance, so that analysis will show the amounts of the primary colors in proper quantities. These sampling relies upon the fact that nearly all materials can be measured by some standard, laboratory analysis can determine the constituents of materials, plus the critical points of the company's process which make extra demands upon the raw material. Chemical analysis is used to determine the proportion of elements in the materials. The U-ray is used to reveal the internal structure and presence of flaws together with the lack of homogeneity that may exist in supplies like steel, iron, etc. The microscope is used for metallographic study and numerous other purposes in seeking to discover either where flaws exist, or where the material lacks the strength to withstand the actual process to which it is to be subjected.

The check upon laboratory analysis lies in the fact that such inspection is to be applied only upon the basis of whether the material lives up to the specifications and conditions under which it was bought. The specifications themselves should contain those demands which laboratory analysis or the engineering division feel will be made upon the material in actual process. Again, to make laboratory analysis practical, the results must be able to be reduced to simple 'yes' and 'no' answers in matters of acceptance or rejection

of purchases. For this reason, allowances, limits, degrees of variability must be set up in the inspection division outlining the degree to which a material may vary from actual specification. These limits, allowances and tolerances will simplify laboratory analysis to the degree where lengthy technical reports will not be necessary but merely a simple 'yes' or 'no' may be issued in regard to the quality of the purchase analyzed.

Finally, and repeating, the basis of inspection by laboratory analysis must always be the terms of the purchase contract, since faulty material cannot be returned for credit or refund unless it violates the actual specifications demanded of it in the purchase order.

Retesting, as suggested by the word itself, is practically self-explanatory. Multiple tests, including new laboratory analysis or re-sampling, should not be made unless a reasonable idea prevails that mistakes were made in the first test. Products once rejected fairly should not be subjected to retests merely because the vendor offers commercial concessions for the re-acceptance.

Benefits of inspecting incoming materials.

There would be no need for industry to consider the question of inspection at all unless there were benefits to be derived from it. At the outset it must be remembered that spec-

ifications are to be formulated by the requisitioning department on the basis that they are aware of their needs and the quality demanded in the supplies. Just as it has been shown that the purchasing agent has no right to change or alterate them, so now it must be said that the inspection division has no right to change or reform specifications.

A strict observance of this fundamental will lead to one of the two major benefits to be derived from scientific inspection, namely that of modifications in specifications leading to an opening up of new sources of supply. In the course of its ordinary routine, the inspection department may discover that a certain material used by the company is essentially like some other material on the open market. By consulting with the requisitioner the material now being used may be adequately substituted without loss of quality. This may allow the purchasing agent to enter into an open market and by competition among vendors secure lower prices on the substitute. This has often happened and has been the means of effecting such economies as would pay for the cost of operating an adequate inspection department for incoming purchases.

Secondly, close inspection which follows the material throughout processing and production may lead to an improvement in supplies that will make for facility in production, less waste and no appreciable rise in the cost of the improved

product.

Inspection of purchases would be necessary if only to protect the company from improper or faulty materials which lead to a lower standard of quality in production. But when scientific inspection, properly organized and controlled, includes also the benefits mentioned above, it amply justifies adequate amplification.

Arguments against its control by purchasing.

Mentioning the proper control of inspection brings to focus one of the much-discussed and controversial subjects in connection with any treatise upon industrial purchasing. It is the subject of the relation of inspection to purchasing.

L.F. Alford makes the statement that, "Inspection, rightly considered, is no part of purchasing duty. It should be independent of the purchasing department, although all disputes as to quality, maintenance of specifications, etc., should be referred to the purchasing department for adjustment with the vendor."

The personal opinion of the writer is that Alford is correct although in his particular work he gives no reason for the statement. Probably he considers the argument so one-sided that he does not deign to hear out the contention. However, I consider inspection as a separate and distinct function and science. Proper supervision it is true,

is needed over it but not interference with it. Its relations with purchasing should be merely clerical and routine, consisting of reports and suggestions. Since the subject is divided into two camps however, it must, in a thesis embracing industrial purchasing practices, include both sides of the story. Since we have just mentioned Alford, let us start with the arguments against control of the inspection department by the purchasing agent.

"J. Mitchell claims, 'The inspection of inbound shipments, however, may be rightly considered as a function of the production department. The performance of this department depends in large measure upon the quality of raw materials with which it is provided. To function effectively, it must be given the right both to specify what shall be purchased and to pass judgment upon what is actually delivered.'"¹ This logic seems sound. If the production department is called upon to turn out a suitable and worthy product it must have the right of knowing what was the quality of the material it received for production. Production has also been called upon by the purchasing agent to make comprehensive specifications in regard to requisitions. According to this demand, it then becomes the right of the production department to determine if these specifications have been adhered to. His knowledge, (the production manager) of materials is purely technical and inspection should be a technical function. Any difficulties met with in inspection of incoming supplies will ultimately need the assistance of the production department for adequate solution.

Edward W. Lewis, however, thinks he has caught the flaw in this logic. When he remarks, "The A. A. battery pack is not of the production department's finished product, but rather of that of the vendor,"¹ that still he fails to bolster his well-taken point with any facts. He merely decides that to let the inspection division know that it is a part of purchasing, will help the former to gain a sense of responsibility regarding the purchase of materials. This appears to be an ill-considered abstraction on the part of Lewis. It is hardly true that if the inspection division feels it is an integral part of the production function, it will take a pride in securing that department of the absolute quality of the materials used in that department, and of the rigid adherence to the specifications on the part of the vendor?

Members of the coalition of purchasing and inspection seem to feel that their greatest argument is that inspection should be a check on purchasing in regard to quality. They seem to think that if the inspection division is independent of purchasing that when a rejection is ordered regarding purchases, the purchasing agent must immediately accept the rejection. They claim that to avoid too many rejections which may make his department look inefficient or careless, the purchasing agent, if in charge of such inspection would tend to minimize rejections. It seems though, that this is more of a reflection

1

"Industrial Purchasing," p. 113. New York: McGraw-Hill, Inc., 1928.

upon the integrity of the purchasing agent than a logical form of opposition, but it will almost surely show the proponents of the coalition very clearly it.

The object of these defenders is that this latter place of inspection, namely rejections, should be a reflection upon the ability of the purchasing agent rather than upon his honesty. They assume that the purchasing agent is as honest as the production manager and they further state that in the case of too many rejections the purchasing agent will prove himself incompetent and will eventually be found out and removed.

The views of both camps could be argued indefinitely, but it would seem wisest to end the discussion with a word from a gentleman who is practically neutral and one therefore, whose ideas may lean less towards bias. John C. Finswore says, "Just that the relation between inspection and purchasing should be depends largely upon the personnel of any particular company and the general lines of authority. There is much to be said in favor of having the inspection department under the purchasing agent. Generally speaking, however, the best interests of all will be served by having inspection subject to production. Since that department is responsible for production, it is only natural and just that it should have the means to check upon the quality of materials. This arrangement

may secure the means of checking the purchasing department, and may serve to keep both departments in a state of constant alertness."

He, then, seems to have arrived at the proper solution. Qualification and cooperation should prevail within the company and the matter of control of the inspection of incoming materials and supplies should be settled with these two ideals in mind.

Fundamental procedure.

Since the purchasing agent's interest in the inspection division relates to the inspection of purchases, fundamental procedure calls for the proper receiving and inspection of the vendor's shipment when it reaches the purchasing agent's company. We have noted that the receiving department generally receives a copy of the purchase order in our study of that particular purchase form. This is so because the receiving department is to check shipments upon arrival as to quantity, quality and other essentials. It is always good policy to omit showing the quantity ordered upon the receiving department's copy so that it will be obliged to actually count, weigh or otherwise record the shipment. The receiving department's record, a copy of which should be forwarded to the purchasing department, should bear the following information for the purchasing agent:

7. Quantity received.
8. Volume of transportation.
9. Condition when received. (damages, etc.)
10. Date of receipt.
11. Purchase order number.
12. Inspecting results or shipment.
13. Type of container.

Such information is vital to the purchasing department so that any variation as to quantity or condition of the shipment may be taken up immediately with the vendor. It also prevents the invoice clerk in the purchasing department from authorizing the payment of invoices which are not correct statements of the actual quantity received by the company.

It is also the duty of the receiving department to forward shipment for inspection. The method of inspection is unimportant and a matter of individual policy, but the fact of inspection is important so that the inspection division can forward an authority to accept the invoice to the purchasing department. Questions as to improper quality, defective material and rejections should be taken up at once with the purchasing agent if possible. It will facilitate the adjustment negotiations with the vendor if the material is decided upon as soon as possible as to quality and adherence to specifications.

A copy of the vendor's record as to adjustments and settlements of claims is to be kept in the purchasing department and is a record of the vendor's reliability. A copy should also be kept in the accounting department as a check upon the purchasing agent's record in adjusting claims with the vendor.

American Optical Company

RECEIVING RECORD

27109

DATE RECEIVED _____
FROM _____

PURCHASE ORDER NO. _____

PART

COMPLETE

Shipment of the Following Material:

REMARKS:

Number of	Gross Wt.	Received Via		Pro. No.	
Boxes		Freight		Prepaid	
Bales		Amer. Express			
Bbls.		Overland Express		Collect	
Crtn.		Parcel Post			
Received By		Deliver to		Approved For	Quantity
				By	Quality

File Chronologically in Receiving Dept. After Goods Are Delivered to Destination.

Fig. 2. The receiving record.

3. PRINCIPLES INVOLVED IN LOGISTICS PLANNING.

It has already been noted that two of the fundamental principles of scientific industrial purchasing involve timely delivery and the maintenance of the lowest possible price. Since transportation costs money it is evident at the start that traffic of incoming materials may add quite a little to the original cost in the cases of companies whose deliveries are large and continuous. It seems unnecessary to point out then that this phase of traffic deserves much attention and study so that the lowest possible rates may be obtained.

Supplier Production.

But in the rank of production it is known that this price angle has been carefully considered and fused into the purchasing policy, so that the question of timely delivery assumes the larger importance. It is true that only a catastrophe or an act of God is accepted by the production department as an excuse for interrupting their department; and it may be added that these excuses are accepted reluctantly. It is not that the production department is unreasonable, but that it presumes that all the factors of traffic have been carefully considered, thereby providing for a possible emergency.

When production is held back because of lack of materials, the entire schedule is disrupted. Labor has no work

to perform and yet overhead continues relentlessly. When the supplies are finally obtained the production department must rush with resultant larger expenditures, to catch up with its planned program. Since purchasing is aware, through the planning department, of the schedule and since the clerk in charge of following up orders has certain defined duties, as we shall see in our study of procedure, then the burden of delivery is laid squarely at the door of the purchasing agent.

Necessity of cooperation.

In pointing out the necessity of close cooperation between the purchasing and traffic departments, we shall at the same time be pointing out the arguments advanced against control of the traffic department by purchasing. The correct study of traffic is a science in itself. The purchasing agent must consult the traffic division so that the lowest possible rates consistent with expeditious delivery may be obtained. Too often the purchasing agent, ignorant of the problems of routing, may be tempted to succumb to the lowest freight rate with a resultant loss of time in delivery.

Since the traffic department is also in charge of commodities leaving the company itself, it is logical that both outgoing and incoming shipments be placed under one department. This leaves it squarely up to the traffic department uncontrolled by purchasing influence. When in the normal

course of procedure the purchasing department learns that a shipment has been delayed or tied up at the shipping point, it must immediately contact the traffic department in an effort to arrange for a re-routing of the shipment. In many large cities there are commercial traffic organizations which will help expedite shipment through the traffic terminals of those cities or through their contacts in other cities. An uncontrolled traffic department will be able to maintain relations with these bureaus to the ultimate benefit of the company. Purchasing after all is but a function and not the entire scope of business management, and it necessarily follows that to place the traffic department under the purchasing agent is to lessen its effectiveness because of the lack of attention which traffic routine would naturally and necessarily receive.

Re-routing, however, may be a minor item in consideration of the more damaging accident of lost shipments. The purchasing agent may report a faulty or slow delivery to the traffic department. The latter might find upon investigation that the shipment has been lost en route. This contingency involves knowledge that the purchasing agent should not be called upon to possess. A letter sent by the purchasing department to the point where the shipment was last seen is of no use because by the time the letter arrives the shipment may have left that point and be of no further concern to the recipient of the

letter. A traffic agent however, with his knowledge of transportation methods, by use of the telephone, telegraph, and outside contacts, may locate and expedite the delivery of the shipment with no loss of time. This phase of traffic procedure is the strongest argument against control of this particular agency by purchasing.

The knowledge of freight rates, classifications, surcharges and other special charges should be sought by the purchasing agent in the settlement of freight bills. Claims for lost or damaged shipments, custom clearances, adjustments and transportation regulations are rightfully the knowledge of an independent department. Of course some concerns are so small that the purchasing agent may be the traffic officer, but yet in those concerns the production manager may also be the purchasing agent. But in any consideration of the theory of big business management it must be admitted that the duties of the traffic agent are so varied and of such importance that in a concern of any size, such duties should be incorporated into an independent agency.

The study of traffic is a science.

It has been seen therefore, that the relation of the purchasing agent to the traffic division is of interest to the purchasing agent only for the sake of expediting delivery, obtaining the lowest freight rates, best insurance and fewest

complications. Beyond that the purchasing agent's authority should not extend, for no executive should be called upon to control a department whose duties and their ramifications are foreign to him. There is no doubt that an independent traffic department within a company will be anxious to maintain a high standard of efficiency with resultant benefits not only to the purchasing agent but to all departmental functions. A traffic department under the purchasing agent might be inclined to be sluggish and the location of supervision over incoming traffic within the purchasing department would necessarily mean the creation of a new department to handle outgoing traffic, chiefly because purchasing has no relations with the latter function whatsoever. Such a waste of organization should be unthinkable. The clearer and more scientific plan is the establishment of a traffic department useful and available to, but independent of, the purchasing agent.

Fundamental procedure.

The placing of a purchase order specifying the date delivery should be made does not necessarily relieve the purchasing department of the obligation to insure the promptness of that delivery. Thus fundamental procedure provides for a follow-up of the purchase order. The importance of this basic step in procedure is obvious since the maintenance of uninterrupted supply depends primarily upon the timely receiving of

material.

Every purchase order, as we shall see in our treatment of it, should bear a specified delivery date and the duty of the follow-up clerk is to avoid, or at least to learn of in time, any accidental delays in the schedule of the delivery that might disrupt steady supply. It is for this reason that most companies forward acknowledgment slips with the purchase order so that the vendor may return them as a sign that he has received the order and upon which he writes the date when delivery should be made. The accepted practices and duties of the follow-up clerk will be analyzed in our study of the duties of the personnel.

PLEASE FILL OUT AND RETURN PROMPTLY.

DATE _____

WE ACKNOWLEDGE RECEIPT OF YOUR ORDER AS PER NUMBER BELOW AND WILL SHIP ON

OR ABOUT _____

SIGNED _____

PURCHASE ORDER

PER _____

Form 40911

Fig. 3. Acknowledgment slip to be sent with purchase order.

American Optical Company

ESTABLISHED 1833 VOLUNTARY ASSOCIATION 1912



Southbridge, Mass., U. S. A.

Subject - Order

Dear Sirs:

We have not yet received your acknowledgment of the above order. Has this been received? If so, when will shipment be made?

Yours very truly,
AMERICAN OPTICAL COMPANY

Purchasing Department

Fig. 4. From letter used by the follow-up clerk.

2. THE PURCHASING AGENT'S RELATION TO MERCHANDISING.

No purchasing agent believes that the merchandising function should be controlled or supervised by purchasing. Even Edward T. Lewis, while an active exponent of magnified purchasing as a panacea for the ills and disorders of industrial management, is quick to recognize the fact that merchandising and sales are not only a distinct and independent function but also of an importance that transcends even that of purchasing.

It must be realized however, that the activities of the merchandising function may at times produce problems of immediate interest to the purchasing agent. This occurs when such activities may mean a change in supplies, in sources of supplies, or in prices of supplies due to an improved material demanded by the merchandising department in the production and promotion of a new product.

Necessity of contact.

Since the purchasing agent is closest to the question of price and source of supply, he may be of value to the merchandising department in suggesting possible modifications. For example, let us assume that the merchandising department is considering dropping a certain product as financially impractical and is seriously considering the promotion of a new idea along the same lines. The purchasing agent may point out that so much

of the material used in the product to be discontinued is on hand that a complete substitution would involve a consequent loss. Then the merchandising department, though desiring the product as planned, may incorporate into its new product such elements as would allow the use of the supplies on hand.

If this be impractical, there exists the strong possibility that the merchandising department will hinder the promotion of the new product until all the old material on hand is used. In the first case the company will benefit by promoting a new commodity with no radical changes in raw material, sources of supply or cost. In the latter case this close contact between departmental executives will prevent the company from keeping a raw material that might become a dead loss.

Cost of Production.

The sales department, as part of the merchandising activities, generally keeps a close watch over the cost of producing the commodity which is being merchandised. This interest in the cost of production creates another reason for close contact between the merchandising department and the merchandising department. It is obvious that the merchandising department is in order to promote those company commodities which cost the least to produce and yield the largest profit. It is indubitable that the merchandising department knows more about the commodity which their company sells than the purchasing agent, but it is

Further indisputable that the purchasing agent knows much about the economic conditions surrounding the material producing the commodity. Thus between time the two groups could be able to bring about the use of those materials which will yield a lower cost of production and yet not impair the final quality of the finished product.

Planning.

It has been pointed out, and upon reflection seems logical, that it is highly important that the purchasing agent keep in close contact with the schedule so that he may be able to make his purchasing plans accordingly. It is generally the cooperative contact with the merchandising department the purchasing agent may be more aware of all planning in regard to future production. Proceeding on this realization, it has become standard procedure to have the purchasing agent or all general merchandising and planning committees to tell all of the materials standards committee. The purchasing agent will be wise to realize that generally such contacts will be of more value to him than any suggestions he may be able to make to these boards.

Reciprocity.

In following the trail of the purchasing agent's interest in marketing we come to a problem as undesirable as it is necessary. It is the question of reciprocity. To deny that any industry in the country makes no use of reciprocal relationships or opportunities is folly. And yet it is a

matter of policy solely in the hands of the sales department. A proper policy may well be one which would develop new sources of sale for the company, an improper policy may be the means of straining the purchasing agent's relationship with vendors.

Used discreetly, however, and born of cooperation between the purchasing agent and the merchandising department, it may be highly beneficial to a concern. I do not deny that there are perhaps, purchasing agents who seek to make their position more solid with the management by forcing vendors to reciprocate with their companies in the matter of placing purchases only with those vendors who patronize the purchasing agent's own company. However, I do say that the sales department can do much to relieve the purchasing agent of such an odious duty when it seems that such tactics are embarrassing to the purchasing agent.

The purchasing agent, however, who goes to the other extreme and refuses to cooperate in any degree is not working with the sales department for the ultimate good of the company. Reciprocity, therefore, is a matter for sound judgment and good taste. It should never be overlooked by the purchasing agent in enabling him to supply his sales department with possible sources of outlet. In fact the purchasing agent ought to maintain a policy of patronizing those companies consistently who are agreeable to his sales department.

Formal procedure.

As a general rule, the actual carrying out of the relationship between the purchasing department and the marketing department is fulfilled by the purchasing agent himself. It consists of the oral or written suggestions of the purchasing agent in regard to materials standards. Almost always these opinions and suggestions of the purchasing agent are judged by management as to their practical worth. As we shall see in our study of the formula by which purchasing efficiency is measured, the purchasing agent is credited only with those amounts and savings resulting from suggestions to the merchandising department which are accepted and approved by management itself.

5. PURCHASING AGENT'S RELATION TO FINANCE.

Since the purchasing department is primarily in charge of buying its company's supplies, and since the finance head is charged with the obligation of paying for them, the relationships between these two departments become definite and important ones. In fact, W.W. Mitchell claims that, "Nowhere in the organization is there need for closer cooperation than between the purchasing and financial departments."¹

Since the burden of this relationship cannot be thrust solely upon the shoulders of the financial department, it therefore devolves upon the purchasing agent to acquire that necessary financial knowledge which will help him, not only in his contact with vendors, but also with his own financial executive.

It is true that in the industrial structure the purchasing agent may be restricted by specifications to his choice of materials, but it is equally true that he is unlinlered in his selection of sources of supply, terms, credits and resources. Any purchasing agent in charge of large expenditures is faced with the need to receive the most value for his money, and more than that, to make the money work for his company.

The function of the financial department is to pro-

vide, control and disburse the funds necessary for the conduct of the business. This being so, the purchasing agent is obliged to realize that all his purchases must be ultimately financed. This relationship becomes different from those in which the purchasing agent acts in an advisory capacity. Here he must assume the role of consultant.

A prerogative of the financial department is to curtail expenses, expenditures, or even to divert funds from one purpose to another if the welfare of the company may necessitate. Consequently, no purchasing agent can or should make extraordinary expenditures. Of course most companies according to individual policy make an accepted practice of allowing the purchasing agent to have the authority to make some purchases, generally for amounts not exceeding one hundred dollars, without the need of consultation and solely upon his own judgment. We are concerned, however, with those extraordinary expenditures which may occur at the wrong time in the mind of the treasurer. If the purchasing agent assumes the prerogative and proceeds to make such purchases without consulting the financial department, the company may be embarrassed by having to finance the purchase, once contracted for, with funds already allotted to another source. On the other hand, if the treasurer peremptorily refuses to sanction the purchase, although feasible financially, he may have to pay a heavy premium

for such a refusal at a later date in the form of higher prices.

Again, the problem of inventory is of vital interest to the treasurer since it represents to him an investment of the company's money. He thus must oversee purchase commitments to the degree that a large investment of money, plus an increased inventory with its carrying charges, is not brought about by the purchasing agent's desire to buy bargains indiscriminately. In other words, prominent authorities point out that the saving in money as seen by the eye of the purchasing agent sometimes becomes distorted and unreal when seen by the eye of the treasurer. The latter sees difficulties in financing purchases; controlling them, etc., that reduce most profits that look large to the purchasing agent to unjustifiable expenditures as matters of company profit. In other words, where the purchasing agent has an eye to departmental efficiency through savings, the treasurer must consider such savings in relation to the financial policy of the company as a whole.

Thus, strict adherence to the purchase budget, plus conferences with the treasurer on matters of speculative or bargain purchasing, may eliminate any friction that might arise as a result of the purchasing agent's tendency to rely upon his own judgment exclusively.

Budgetary control.

We have seen previously that by close contact with the planning department, the purchasing agent may be forewarned of the material requirements for a definite scheduled period. There is another sort of scheduling in which the purchasing agent must necessarily participate. This is the company's financial planning or budgetary control. At the outset it must be understood that the proper budget is not compiled in the purchasing agent but rather for him.

This budgetary control may be defined as:

- " 1. Assembling information that may have an effect on operation during a specified future period.
2. Applying this information to forecast trends and form a budget.
3. Using the program currently for measuring operations." (1)

From this definition it may be concluded that budgetary control is a definite plan, compiled from the most reliable sources, to outline and limit expenditures as an important aid to management control. Then the master budget is broken down the purchasing agent will receive a purchasing budget which is, in effect, a plan which tells him plainly how much to buy, when to buy and when to hedge his purchases and pay, for a certain ensuing period of time. It is not a plan that the purchasing agent can regard lightly or ignore.

In the formation of the budget, and its resultant con-

retary control, the purchasing agent is generally not a participant, or if so, only as an adviser in relation to the departmental needs. It therefore becomes a norm by which procurement can regulate its purchases and a law by which those purchases are restricted. It benefits the purchasing agent by minimizing his responsibilities, and by contributory interdepartmental suggestions makes for closer coordination. These benefits are inherent in the very functions of budgetary control which are;

1. It supplies a guide for the purchasing department in placing orders.
2. It coordinates sales and purchases.
3. It supplies the information required by the financial department which is responsible for providing the funds with which to pay the budgets.
4. It provides a standard to judge whether the purchasing agent is maintaining adequate and economical inventories.

In summation, "Mitchell says of it," Budgetary control provides another and very important means of coordinating interdepartmental relations."

Terms, credits and discounts.

As one of its duties, and further as one of its relations with finance, L.F. Alford says, "The purchasing department should as one of its functions, watch terms of payment and keep in close touch with the financial department's policy. At times, loss of a discount or a slight increase in price due to extended payment periods, may remove the necessity of borrowing money at

¹ "Purchasing," p. 150. New York: Ronald Press Co., 1927.

an interest charge greater than the increased price. The purchasing department can also arrange payment when any orders are placed, to coincide with receipts of cash by the financial department."

The purchasing agent of a company much pressed for working capital finds that he has to do business with dealers who are willing to extend liberal credit terms. It tends to react that such vendors are not offering extended terms as an altruistic gesture. The price that the purchasing agent must pay is in higher prices and loss of discounts. And the matter of discounts can be of vital importance to the treasurer.

It is the duty of the purchasing agent to ascertain the policy of the financial department as to the discounts to be taken and the following up of them. For this reason, Alford points out that there are two means by which the purchasing agent and the treasurer can make the taking of discounts a matter of routine. The treasurer prepares for the purchasing agent his policy as to the companies and the size of discounts favorable to prompt payment. This is kept by the invoice clerk in the purchasing department and is used as a reference in the checking of every invoice. When pressed for time, the clerk can rush through those invoices that are on the treasurer's preferred list.

The second measure relates to the invoice record clerk which the treasurer forwards to the purchasing agent, and which outlines those invoices which are wanted as soon as possible and, pointing out the time limit by which they are wanted, are expected to be an all-in guide to the invoice clerk. These invoices which are listed as to vendor and amount, are the ones to be rushed through for payment. If any of these invoices represent orders about which there is difficulty as to quantity, quality or delivery, the treasurer must be notified, since the final adjustment of the claim may result in a corrected invoice with a new discount date.

Whether the treasurer takes any notice of the terms on invoices is a matter for him to decide. The purchasing agent has no right to dictate financial policy as to discounts, and that the treasurer ignores certain companies and discounts, is no reason for the purchasing agent to refrain from trying to receive the best terms he can, even from those companies which are being ignored.

Inventory control.

Were the purchasing agent to observe all the foregoing relationships with the Financial Department and then lose all sense of proportion in regard to proper inventory control, he would nullify all his good work. Inventory control is nothing more or less than complete regulation of the quantity of supplies on hand.

We have seen that the contact with the stores Department is advantageous to the purchasing agent in that it informs him of the rate of use of any material together with the amount of any particular material on hand. This aids the purchasing agent in securing steady and timely supply.

It is also true that inventory represents investment, and in determining the efficiency of the purchasing Department, the purchasing agent is charged with the amount of inventory on hand.¹ This is a debit in the reckoning of efficiency and it should be the plan of the purchasing agent to keep that debit at a minimum.

Thus it is that actual procedure now maintains that the purchasing agent should keep records known as perpetual inventory, in which the purchasing agent can see from day to day the amounts of material on hand. Thus, as the problem of proportionate inventory is studied, it resolves itself into two phases which must be well determined by the purchasing agent. The

1

Lewis, J. E., "Industrial Purchasing," p. 282. Prentice-Hall, Inc., New York: 1933.

first relates to the most economical quantity to buy at any one time so that the stores department will have enough to take care of the need and any emergency that might arise without purchasing so much that too much investment has to be made at any one time.

The second question is related to, and an off-shoot of, the first. It relates to the peculiar problems of storage both within the company and without the company. Within the company, the ordering of quantities of any particular supply in excess of the reasonable demand merely consumes space belonging to other items of purchase and supply. Storage outside of the company presents problems in investment and upkeep due to the charges that must be met for such storing. Storage in either case brings with it those elements of depreciation, obsolescence, etc., which have to exist in industry but at the lowest possible degree. As we shall see later, such elements in the storage problem are held as debits against purchasing efficiency. Obviously, if there were no purchases there would be no inventory, so that purchasing agents have given much time to a study of maximum and minimum inventory control. Hence large price savings can be effected safely in the first instance, and the amount of inventory and investment can be safely reduced in the latter instance. It has come to be accepted as one of the better methods of inventory control.

Maximum and minimum inventory control.

"With the stores department under his watchful eye, the purchasing agent may protect the interests of his company by buying in reasonable and profitable stores of standard material requirements." This is the same observation of T. G. Dinwiddie.

However, the purchasing agent must realize that behind that watchful eye must function a mind capable of formulating plans for the wise control of inventory. Industry has found that a system of maximum and minimum inventory will prove to be a highly satisfactory measure of control. This is the system whereby the purchasing agent, through the channels already listed, determines the immediate need and proceeds from there to a determination of quantitative maxima and minima.

Let us assume that the purchasing agent has forty units in stores and production requirements are one hundred units each month. The purchasing agent may know by experience that the delivery requires from five to ten days. He then proceeds to draw up his minimum inventory in the following manner. With forty units in stores and a hundred units required, he has an actual demand for sixty units. However, this hundred units is already needed for current production, so the purchasing agent orders an additional hundred units to take care of the period following withdrawal of the current month's one

hundred units. To allow for all possible emergencies, delivery delays, losses, etc., he may find it preferable to add one-half month's supply to the order, or fifty units. His reasoning then resolves itself into a mathematical control system somewhat like the following:

60	units	to care for excess of immediate demand over stock on hand.
100	units	to care for estimated scheduled demand of indefinite future.
50	units	as a margin of safety.
<u>210</u>	units	then becomes the rate of minimum control of this item. (1)

This then, becomes the standard he must maintain as the lowest possible amount of that particular material he can safely carry.

Maximum control is the obverse of this. It resolves itself into the largest possible amount the purchasing agent may carry so as to enable him to take advantage of good prices, discounts or whatever other financial inducements the vendor may offer him. It is arrived at by judging what he can safely carry through a study of the schedule and by contact with the planning department in ascertaining future production programs. Obviously, the purchasing agent who established his maximum inventory without advice from these departments, and solely on a 'hunch' is reverting to over-laying which is to be discarded. A discontinuance of use of the material which he thus buys will entail such a loss as to wipe out any economies he has effected.

The purchasing agent is obliged to bear two facts in mind when establishing his maximum and minimum inventory control. The first is that a definite ordering point must be established which, when reached, calls for the purchase of a particular supply. This ordering point is to be determined at that amount of stock which is finally reached in stores due to withdrawals, and which is the lowest possible point that can safely be reached before a new order for the material is sent to the vendor. In reaching the ordering point, the purchasing agent must take into consideration the amount of time necessary for the vendor to deliver the shipment; the possibility of any delay in delivery; the production schedule for the period during which delivery is being made.

If the ordering point is too high he will be losing the benefit of minimum purchase quantities since he will obviously have on hand more than justifies a new purchase. In the same manner, this high ordering point may throw his minimum order out of control so that he will find himself with more of the material than he should safely carry.

The second fact is liable to be overlooked by the purchasing agent once he has set up his maximum and minimum schedule. It is the fact of the necessity of revision of his programs from time to time. Factors in the formation of these programs may change as to new rates of use; price fluctuations which might make maximum inventory purchases disastrous; a rising

market which might make minor purchases costly; changes in the merchandising policy which might make the future production schedule uncertain.

Naturally, all these factors are not liable to creep into the problem at once, but it is the duty of the purchasing agent, by constant study and revision of the proper purchase quantities of the major items of supply, to guard against hazardous underbuying or costly overbuying.

Overbuying.

If it were possible to make so fine a distinction, it might be said that of the two evils, underbuying is a shade less serious than overbuying. And yet of the two evils the purchasing agent invariably leans toward the latter. For strained relations between the purchasing agent and the treasurer; refusal to consult the financial department; disregard of the purchase program; all of these can easily lead the purchasing agent into overbuying.

And yet there are two more common reasons for this lack of buying judgment that can exist even in the face of cooperation between these departments. The first is a result of personal pride on the part of the purchasing agent. Every executive in the company expects and requires of the purchasing agent that he keep a full stock of supplies on hand to prevent interruption of the production program. Realizing the

criticism that will be his if the quantity of supplies on hand proves inadequate, the purchasing agent may be tempted to purchase such large quantities that he will be in no danger of censure.

There is a tendency also among purchasing agents to buy a bargain in the interests of economy. And yet no economy ever justified the actions of a purchasing agent who is unable to resist bargain offers. It is no unique in industry, and one of which the purchasing agent should be particularly aware, that bargains do not exist in such a degree that a concern is justified in tying up its capital in excess inventory. Upon whom, other than the purchasing agent, can the company rely to carry out sane and reasonable quantitative purchasing and control?

Storage.

To make overbuying and lack of inventory control more culpable, there exists the problem of storage of material. In most companies, especially if the purchase budget is being adhered to rigidly, the space within the company itself may be adequate for storeroomkeeping. Undoubtedly, inventory carrying charges, or storage costs, will more than counterbalance the savings on price effected in the purchase of some materials. Thus the purchasing agent who finds himself too ready to buy bargains must realize that the initial cost of the

material may not be the final cost, since storage charges add to the primary cost of the supplies.

Frank Farris, Supervisor of Inventories in the U.S. Steel Corporation, says, "The storing cost per annum of any of the major purchases is twenty-five per centum of the value of the item."¹ Proceeding further he breaks down this twenty-five per centum and thus gives the purchaser a good check food for thought in buying those materials which require storing. According to Mr. Farris, the division of this percentage is as follows:

Storage Facilities95
Insurance25
Taxes30
Transportation50
Handling and Distribution	...	5.00
Depreciation	...	5.00
Interest	...	8.00
Obsolescence	...	10.00
		<u>25.00</u>

Proper attention to these details, and realization of the part that these factors play in the ultimate cost of materials, will enable the purchasing agent to establish whether a bargain is really a bargain, or not. Ultimately it may point favorably to the treasurer who will find less need for large disbursements due to erratic and untimely buying.

Speculative Purchasing.

Since the purchasing agent is fundamentally a buyer seeking the best savings he can obtain for his company, it becomes natural that he should be interested in, and affected by,

1

"Cost and Production Handbook," 1937. New York:

Donald Press Co., 1954.

price trend. Thus it is that the purchasing agent must not soon speculative purchasing at times, because, as Fisher points out, "Scientific purchasing encourages buying at low lines of the market and limited buying at the high points."¹

Speculative purchasing signifies that the purchasing agent is buying in advance of ordinary requirements in anticipation of a rising market, or buying much less in anticipa- tion of a dropping market. Regardless of the reason for speculative purchasing may be subjected to the criticism of industrial purchasing. The purchasing agent who stocks up in supplies only to have the price steadily decline has encumbered his company with stock that will add to the cost of production. It seems then, that speculative purchasing is a necessary element of industrial management.

Advantages.

Despite my feelings, which are definitely opposed to the unrestricted freedom of the speculative function in any purchasing agent, there are certain advantages to be derived from sound speculation. The purchasing agent is in excellent position, through his daily and numerous contacts with salesmen, to avail himself of any information they may possess. Adding to this a knowledge of the market which obviously he must possess, he may be able to judge what is happening or will happen to prices. Therefrom will come the first and most clear-cut of

¹

"Scientific Purchasing," p. 154. New York: McGraw-Hill, Inc., 1928.

speculation's advantages, that of large savings in purchase prices. There is no need to enlarge upon this advantage since scientific purchasing lays its claim to industrial importance upon the facts of economy of operation and the resultant increase in profits to the company.

There is a second and very definite advantage of speculation, however, which is of immediate and definite benefit to many other departments in the company. It is the greater margin of profit that may be realized on the finished product, whose price does not fluctuate as does that of the raw material used in its construction. To take a commodity and reduce its production cost from seventy cents to sixty-five cents is apparently of tremendous profit to the company since the saleable price of the finished product will probably remain at its previous figure.

Disadvantages.

Paradoxically, it is in the attempt to effect these advantages and savings that the distinct disadvantages of speculative purchasing occur. When the purchasing agent is so ambitious to capitalize on apparent market conditions, he is very apt to neglect his production schedule to the extent that he exceeds planned programs in an attempt to analyze the market. It is true that this may work out beneficially, but it is merely putting him right back into the dangers of overbuying.

It is further apparent that to effect any appreciable savings, he must buy in large quantities so as to take full advantage of low prices. This condition will bring him face to face with the problem of storage of the surplus with its factors of obsolescence, insurance, etc. We have already seen that the storage factor levies a tax of twenty-five per centum per annum upon the value of an item so that the purchasing agent must secure a large profit to justify this extra charge.

Since the purchasing agent is not infallible, he may make an error in estimating market trends, in which event the effect upon his company might be disastrous. Time has shown us that men who live by the market, undertaking its problems as well as man can, have frequently ended in bankruptcy. This phase thus develops what I consider the greatest opposition to the policy itself. The purchasing agent has no license to bet or gamble with another person's money. This is what speculative purchasing is. It is the policy whereby the purchasing agent may pit his knowledge against the uncertain vagaries of market fluctuations with nothing to lose but his prestige, since his gambles are being paid for with the company's money.

The matter of speculative purchasing, if to be considered at all, must become a matter of company policy. The appropriate executives, especially the treasurer, should have full knowledge of, and first sanction, the speculative activities of the purchasing agent.

Economic lot size formulae.

The purchasing agents themselves of late years have been much interested in finding a formula for the most economically sized purchase order. This is especially so when a sure system of maximum and minimum inventory control is being used by the purchasing agent. The National Association of Purchasing Agents has adopted four formulae as representative of the proper theoretical procedure in arriving at economic lot sizes. These four formulae are finally broken down into two groups, one of which takes into definite account the giving of quantity discounts in connection with large purchases.

The first formula considers that six factors, which can be mathematically treated, influence the size of the most economical lot to be purchased. The factors are:

1. The cost of procurement from the time the purchase is requisitioned until the goods have been received, checked, inspected and put into stores.
2. The quantity to be purchased for a given scheduled period.
3. Interest charges for carrying the inventory.
4. Storage charges.
5. The reserve stock necessary for emergencies.
6. The unit purchase price. (1)

Thus in formulating an equation for the proper purchase lot, all of these factors must be represented except that of the reserve lot necessary for emergency. This is so because the formula considers an emergency as having no place in routine

purchasing beyond being provided for. The result of the application of mathematics to these factors is the following equation:

$$Q = \sqrt{\frac{2G}{I + \frac{C}{P}}}$$
 in which:

- Q is the quantity to be purchased;
- G is the total procurement expense for the order.
- I is the storage factor.
- P is the interest factor. (1)

For example: If the procurement cost of an order is \$3.50, the storage cost is \$.0000006, and the interest factor is .00000015 and Q will equal

$$\sqrt{\frac{2 \times 3.50}{.0000006 \text{ plus } .00000015}} \quad \text{or } 1,826 \text{ pieces as the economic lot size. (2)}$$

The interest factor is calculated by multiplying the unit purchase price by the interest price or rate and dividing the result by twice the number of units used in one year. This division by twice the number of units is made because the inventory would be constantly decreasing due to use, and the interest charge could only be made against the average amount in stock, not against the whole lot purchased. In the same way, the storage factor is calculated by multiplying the cost per square foot by the number of square feet necessary to store each unit, and dividing the result by the number of units. In this case no average can be struck since there must be storage space for the entire lot when it arrives.

The second formula is like the first and differs only in that it becomes more highly mathematical. Thus "G" which

represents the procurement cost in the first formula, is credited in the second formula with any additional discounts that may be gained by quantity purchases. To make up for this credit, however, the second formula designates that the storage factor of the first formula "K" must include obsolescence and deterioration charges. This computation then, makes the second formula more cumbersome and of a highly mathematical order. The result to be determined, that of the economic lot size, and the method of arriving at it, by equation, are the same as those of the first formula, except, in detail, for the inclusion of those factors which admittedly make the second formula more highly scientific than the first, but at the same time more ponderous.

In fact, it is interesting to note, that although the National Association of Purchasing Agents itself selects these methods as ideal for arriving at the economic lot size for purchasing, nevertheless it hastens to qualify the selection. "The value of such formulae, as a practical matter and accepted practice is open to very serious discussion. In other words, there is no point in working out to the nicety of an extensive formula the amount to purchase, when, once having reached it, one is compelled to modify his equation by the statement that there is no substitute for judgment, and that the factors of individual company policy and conditions must be given more serious con-

variation in modifying the result. Inquiry reveals not a single concern in America using any such accepted formula for arriving at the economic lot size, beyond considering such factors in the light of individual practice. It is true that the work which has been done by these formulae is worth something, due to the fact that they call attention to the necessity for deep consideration in arriving at the economic lot size in purchasing. As a device of any real value to the purchasing officer, they are probably worthless beyond that one contribution. As a matter of cold fact they are positively dangerous, since they are likely, - assuming that any one could or would use them, - to create the impression that the same mechanistic procedure which has condemned the arbitrary use of maximum and minimum⁴ can be applied under these circumstances.¹

The facts and figures contained in this section are compiled from data contained in:
 Lewis, F.T., 'Industrial Purchasing,' pp.133-164. New York: Prentice-Hall, Inc., 1932.

1. Ibid. p. 159.
2. Ibid. p. 160.
3. Ibid. p. 160.
4. Ibid. pp. 153-64

Fundamental procedure.

There are three steps in basic purchasing procedure that may either interest the treasurer or be affected by the financial department's policies. These are; (1) quotations or bids; (2) analysis of the proposals; (3) the checking of the invoice.

Very often the purchasing agent will discover by consulting the files that the vendor who sold the company the last lot of any particular supply is still the logical source from whom to secure the present lot. However, when the purchasing agent, or treasurer, is uncertain of the price he is paying for any commodity; when he wishes to seek the lowest possible price; or when the material to be purchased is a new item, he generally submits requests for a quotation to certain vendors.

L. F. Alford maintains that the best interests of the company will be served if such requests are sent to not less than three nor more than five possible sources of supply.¹ Such requests should be specific in describing the material and if possible should give the following information:

1. Quantity to be ordered.
2. Full specifications.
3. Point to which goods are to be delivered.
4. Delivery time allowed.
5. Date when quotations will be considered.

The requests for quotation besides giving the vendor the information listed above, should seek the following:

¹

"Cost and Production Manual," pp. 223-225. ed. by:

McGraw-Hill Press Co., 1924.

1. Price.
2. F.O.B. point.
3. Terms of payment.
4. Delivery time.
5. Any special terms the vendor wishes to make.

The question as to whom the quotations should be requested from depends upon the records of the purchasing agent, and he should seek to get the broadest possible price picture. Purchase record cards should indicate any sources of supply that have been found to be unsatisfactory in the past. They should also reveal where the best prices were obtained in past negotiations. When a new item is to be bid upon, dependence must be placed upon the purchasing agent's knowledge of the vendor field, or upon registers, files of advertising matter or catalogues.

How far these requests for quotation should be followed up depends upon how much information is needed. Most companies make it imperative that all quotations be submitted before a definite date, ruling out all late entries. Often it is desirable to secure every vendor quotation before the actual purchase order is placed. For this reason the quotation record card may be used as a basis for a simple follow-up system, showing at all times what quotations have been requested and what quotations received. This card may be placed in a tickler file to bring up unanswered requests in time for the follow-up. This card is also the medium for tabulating and comparing quotations and is necessary

in some form or another depending upon the method of analysis.

Thus, negotiations leading up to the actual placing of the purchase order may seem cumbersome and can become tedious unless a rational check is kept upon them. The method itself is a matter of company policy. Properly supervised, such negotiations can be reduced to mere routine and present no cumbersome prolongation.

Studying the proposals received, selecting the vendor and actually forwarding the purchasing order itself necessarily follow the reception of quotations. The analysis of the proposals submitted by the vendor and ultimate selection of the proper vendor are matters of company policy and affected by such conditions as price, discounts and terms. But the actual purchase itself is common to all concerns. Actually, every company in the country uses purchase order forms. The ideal purchase order as outlined by Allford should be the vendor's authority to ship and charge for the goods specified, and is the buyer's commitment to the vendor for the value of the goods received.¹ It is the most important of purchase forms and its provisions and conditions of purchase should be carefully planned and continually checked for revision. It should include a purchase order number to be used by the vendor in shipping and billing the goods. It will identify the particular transaction throughout each step of procedure and should

1

'Cost and Production Handbook,' p.382. New York: Ronald Press Co., 1934.

act as the identification of the purchase in the records.

Necessarily, it should clearly state the quantity of goods wanted; the quality desired; specifications as to delivery and transportation; filling instructions as to the number of copies of the invoice needed by the purchasing agent; terms and conditions of payment; prices to be paid and miscellaneous clauses and conditions which vary with the conditions or customs.

An acceptance or acknowledgment of the order must be made by the vendor to bind the agreement unless the order itself is an acceptance of a quotation. The use of this enables the follow-up clerk to keep delivery under control.

Accounting information given on the purchase order is not sent to the vendor but should be typed in on those copies which are used in interdepartmental relations so that proper instructions for receiving and charging materials will be had in the company.

Obviously the date, signature and the vendor's name and address are necessary to the purchase order and need not be discussed.

Opinions as to the number of copies needed for internal company use vary, but generally six copies are made and divided as follows:

1. Vendor's copy.
2. Acknowledgment form to be filled by vendor and returned.
3. Purchasing department copy.

4. Accounting department copy.
5. Receiving department copy.
6. Inspection department copy.

If the preceding steps in procedure have progressed smoothly up to now, the next step becomes that of checking the invoice. The important points to be considered by the invoice clerk are:

1. Quantity.
2. Quality.
3. Prices.
4. Terms.
5. Transportation charges.
6. Aiding the financial department to take advantage of discounts according to company policy.

These duties and the actual methods of meeting them are to be treated in the consideration of the duties of the personnel.

The actual invoice form to be used is in the hands of the vendor unless the purchasing agent furnishes forms to be used. It is the general practice today, however, to adopt a standard form which takes for uniformity in design and in facilitation of operation on the part of the invoice clerk.

PURCHASE ORDER

American Optical Company

ESTABLISHED 1833--VOLUNTARY ASSOCIATION 1912
 FACTORIES AT SOUTHBRIDGE, MASSACHUSETTS



Southbridge, Mass., U. S. A.

Date _____

Order No. _____

Terms _____

F. O. B. _____

Please enter our order as specified below. Render invoice in duplicate.

BILL TO AMERICAN OPTICAL COMPANY

SHIP TO _____

VIA _____

QUANTITY	ARTICLES	PRICE
For	Acct.	

N. B. This order is subject to conditions printed on back hereof.

DO NOT INSURE

Parcel Post Freight Express
 Release shipments to Express Co. at value not exceeding \$50.00
 or 50c lb. in event shipment weighs more than 100 pounds.

American Optical Company

Purchasing Manager

Nº 17061

CHARGE OR CREDIT REPORT

Date.....

Settlement of Invoice of (Date.....) Our No.

Amount \$.....

Covering Material Purchased on Purchase Order No.....

Receiving Record No.

From (Name of Vendor).....

(Address).....

Charge Vendor, Subject to Following Conditions:

Charge
Credit Account
Material Returned for

Purchasing Dept.

By

Credit—See Shipping Order No.....

Replacement—See Purchase Order No.....

Original—Attach to Invoice—Send to Accounting Department

50305A

Fig. 6. The charge or credit report used by the financial department.

6. PURCHASING AGENT'S RELATION TO LAW.

Since the primary function of the purchasing agent is the buying of his concern's supplies, it naturally follows that such purchases shall be governed by certain and definite laws and regulations. True it is, that at times the purchasing agent may be held personally liable for purchases and any errors in commission of his duty. It has been held, therefore, that there are three occasions when the purchasing agent is personally liable for the purchases he makes. These are:

1. When he makes a false statement concerning his authority with intent to deceive the vendor.
2. When he performs a damaging act without authority, although he may believe he has such authority.
3. When he breaks a law even though supported by his employer. (1)

However, these infractions rarely occur, since the purchasing agent by indicating that he is acting as an authoritative agent for his company, and in the lawful name of his employer, thus binds his company to responsibility for his purchases.² It is this duty as a responsible agent that binds the purchasing agent to a strict observance of the law.

Since we have been told that American industry expends fifty-one billion dollars for material yearly, it is only right that the purchasing agent have such a fundamental and working knowledge of the law, that he avoid such legal

1

¹ Corpus Juris, Agency Sect. 227.

2

² Collins vs. Buckeye State Insurance Co., 17 Ohio State 115.

entanglements it would be costly to the finances or reputation of his company. This does not necessarily imply that the purchasing agent need be a lawyer, since the legal knowledge is strictly elementary, but it does mean that he be aware of his legal obligations and the manner in which he can incur infractions of the law.

Since ignorance of the law excuses no one, and further since the business world still observes the maxim "caveat emptor," it devolves upon the purchasing agent to have an adequate familiarity with the law. It is not only that as an agent he protect his company but also that he be able to avoid personal liability that he should devote himself to a grasp of the legal rudiments relating to his profession. It is not logical that he should make large profits through long months of study, only to lose them and more through legal errors and difficulties. It is also true that in matters beyond his ken, or involving situations beyond his comprehension, he may rely upon legal counsel for solution and guidance. However, the industrial purchasing agent's duties do not allow him to spend too much time in conference with legal advisers, so he must necessarily adjust himself to dealing legally with those every-day matters which come under his jurisdiction.

Contracts.

A most important duty of the industrial purchasing agent is the proper entering into and drawing up of contracts. Since practically all of a purchasing agent's supplies are contracted for, it is only natural that the purchasing agent have a sound knowledge of the laws governing contracts and the extent to which he is obligating his company. Fundamentally, a contract is nothing more or less than an agreement of such nature that its terms can be enforced in a court of law if necessary. However, the purchasing agent must realize the essential elements necessary to make a contract enforceable and valid.

These are:

1. Agreement.
2. Responsibility.
3. Consideration.
4. Legal object.

The first element, that of agreement, indicates that there has been, or must be, a meeting of minds as a result of an offer made by one party to another. This proposal may be either oral or written, but certain features of a contract when not expressly indicated, are taken for granted by law. When nothing is said of the terms of the contract, the purchasing agent must realize that the law considers cash payment as the understood requisite. When there is no express mention made of delivery, the purchasing agent must realize that the

law will regard the unwritten term as connoting delivery after the price is paid.

Since we have considered the importance of the relationship between the treasurer and the purchasing agent in regard to proper terms, it becomes necessary that the purchasing agent does not allow an unexpressed method of terms to bind his company to cash payment if contrary to financial policy. Since we have also seen the necessity of timely delivery to an uninterrupted production schedule, the purchasing agent must be alert to the untely express terms so that he will not have to wait for delivery until the invoice is paid for.

Fundamentally, therefore, the purchasing agent should make sure that the contract commits the vendor to deliver, and himself to accept, a certain quantity of goods, of specified quality, at a definite price, within a definite period of time.

This, however, is only the beginning of the purchasing agent's interest in a contract, since it follows that the contract and its terms must be duly accepted. The manner of the acceptance of a contract is one of its most important features. Generally, however, let it be said that the acceptance of a written instrument should be unwritten instrument. Or it can be said that the acceptance be of the same nature as the contract itself. Thus if a purchasing agent agrees to contract for a purchase by medium of the telegraph, a return telegram of

acceptance is a valid acceptance. An oral acceptance of an oral contract is valid, but it would be difficult for a purchasing agent to prove an oral statement, hence the need for a written instrument.

If the purchasing agent accepts an equitable contract upon oral agreement that it involve some changes in execution, the vendor is not liable for those changes as long as he fulfills the terms of the contract itself. Thus the purchasing agent who wishes to make a few minor changes in a contract should call for a completely new written contract containing the changes he desires. This protects him when necessary to legally enforce the terms of the contract. Let it be said that the best means for the purchasing agent to adopt is to have written contract forms ready and printed by his company, so that he may instantly know that when they are accepted by a vendor all legal entanglements will be avoided. This makes for standardization of contracts within a company and has often proved a valuable aid to the purchasing agent in a court of law as a means of establishing precedent.

Responsibility.

The contract can be enforced only when it is an agreement between responsible and competent parties. This is of immense importance to the purchasing agent, that he know whether he is lawfully binding the vendor to a fulfillment

of the contract. Since the position of the purchasing agent is generally clearly defined in relation to obligating his company, that of the salesman of a vendor is not. In many cases the court has upheld the vendor as against the purchasing agent in determining the validity of a contract because the salesman for the vendor was in position to make no such terms as contained in the contract.

It is important for the purchasing agent, therefore, to contract with the proper party so that his company will be duly obligated. It is also of importance to the purchasing agent that he keep records of his contractual relations with the vendor, for if the past shows that the vendor was in the habit of honoring his salesman's contracts, this precedent will react favorably to the purchasing agent in a court of law.

Consideration.

Another important and well-established law of purchasing contracts is that if any individual in the contract fails to keep its promise or agreement, the other party is automatically released from fulfillment of the contract, and in every instance the party who acts in good faith has a legal right of action for damages for the breach, or he may sue and compel the defaulting party to perform the agreed acts. It is important for the purchasing agent to realize this and to contain such a legal detriment within the contract itself.

It at once defines the obligations of the two parties and shows what can and will happen if there be a breach. As mentioned above, the purchasing agent by having on hand carefully planned contract forms, will eliminate the necessity of studying this phase of proper contracting with the issuance of each new contract.

Legal object.

It doesn't seem necessary to remark that one of the essentials of a contract is the accomplishment of some lawful purpose. A violation of this fundamental is also unethical on the part of the purchasing agent and more often than not makes him, rather than the company, personally responsible. On the other hand there never will exist in industrial management a condition obligating the purchasing agent to circumvent the law. All his supplies are specified for him, the amount of the purchase budget is also compiled for him, and finally, the cost of materials in relation to production cost has been estimated. It remains therefore, the only duty of the purchasing agent to observe these added aids and by doing so he will never be compelled by company policy to evade the law in securing materials. When a purchasing agent does violate legal regulations, he does so personally and in an attempt to enhance his reputation as a scientific executive within his own company by the securing of such prices, terms or quality. Such violat-

tions become then a matter of ethics, obligating the company in no way, and serving to bind the purchasing agent himself personally liable for such breaches.

Patent infringements.

However, the purchasing agent in all good faith may, in the execution of a valid contract, be guilty of violating the law. This becomes true when he becomes a party, even innocently, to patent infringements. This occurs when the purchasing agent buys supplies whose use or disposal will result in patent infringement. It makes no difference that the purchasing agent may be an innocent party to such violations, the fact remains that he is held accountable and finable in a court of law.

It is well for the purchasing agent to remember that the owner of the patent is privileged to sue the manufacturer, the vendor, the buyer of the invention, or indeed, all of them. It makes no difference that the patent owner generally sues the manufacturer, in which case the purchasing agent will be held as a less liable violator, it is up to the purchasing agent to see that his company is not held as a party in any suit at all.

The best way for the purchasing agent to avoid the payment of fines for such infractions is to incorporate into his contract such clauses as will specify that the vendor is

responsible for any money lost by the purchasing agent as a result of patent infringements. Again appealing to the necessity of having standard contract forms on hand, we find that this will save the purchasing agent citing this specification with each new purchase contract. It is important also to remember that a mere promise by the vendor to reimburse the purchasing agent in event of infringement is not binding, and in drawing up this clause within a contract all the above-outlined essentials of a legal and valid contracting must be observed.

Insurance of protection.

The complexities of the delivery problem, together with its problems of responsibility and control, can be reduced to fundamentals readily grasped by the purchasing agent. It is safe to say that practically every purchase contract into which a purchasing agent may enter, obligates the vendor to make delivery in a specified condition, in a specified way or to a specified place. Although these specifications can be ordinarily contained in the contract form we have spoken of, the purchasing agent may find at times that a better price can be obtained by changes in the statement of delivery method.

For instance, the purchasing agent may find through his traffic department, that by relieving the vendor of the responsibility of transportation in a certain instance, he may

acquire such lower transportation rates as will bring the cost of the material to a more profitable lower level. In this case he may contract for the stock f.o.b. the vendor's place of business. The purchasing agent must realize then, that in this case the vendor's interest in, and obligation to, delivery ceases when he delivers this material to the carrier. If anything happens to the shipment it is the purchasing agent's loss since he acquired title to the property immediately upon the vendor's transference to the carrier. Any hope of reimbursement must be effected between the purchasing agent and the carrier. Even if the court sustains the carrier as specifically not liable in the particular instance for the loss or damage of the purchasing agent's property, the purchasing agent must nevertheless pay the vendor as if the delivery were made in good order.

Thus it would seem, and it is a fact, that the purchasing agent leans more to the idea of buying the supplies f.o.b. his own company. In this case the vendor is responsible for the material throughout the journey and the risks and problems of delivery are necessarily his. The vendor's duty is not done until he lays the commodity down where the contract specifies.

If the purchasing agent makes no specification as to place of delivery, the court specifies that the material be

shipped f.o.b. the vendor's place of business. This is important to the purchasing agent since it may mean an increase in the cost of material, when he purchased it under the assumption that it was a delivered price.

In cost cases the purchasing agent will find that the traffic department in his own company is well versed in problems of delivery and risk. Cooperation between the departments will result in a lessening of the purchasing agent's need of legal knowledge beyond the fundamentals listed.

Guarantees.

The purchasing agent who realizes the workings of the maxim "caveat emptor," in his relations with vendors will naturally seek to protect himself through the medium of guarantees and warranties. But even then he must be aware of the difference between expressed warranties and implied warranties.

Expressed warranties.

When a vendor makes a statement concerning the quality, durability or utility of his product in order to sway the purchasing agent, he is making an express warranty. It is then assumed that the purchasing agent purchased the vendor's commodity on the strength of such assertions. However, the burden is upon the purchasing agent to prove such an expression and he should see that the warranty becomes a part of the contract. Any vendor who is sincere will not hesitate to guarantee his product so that this problem should never present too much

difficulty. The question is to prove the expression of warranty in the event that the material fall below the desired or promised standard. Let the purchasing agent merely mention that a written warranty may prevent forgetfulness on the part of the vendor.

Implied warranties.

The law, however, protects the purchasing agent in the matter of warranties which are not written but are assumed to be implied. It is the duty of the purchasing agent to be aware of these and also his privilege to insist that even these implied warranties are in writing. For example, there is primarily the implied warranty of clear title by which the purchasing agent may legally assume that the vendor has a clear right to sell such goods as the purchasing agent is buying without any claims, charges or encumbrances levied against them at the time of, and until the consummation of, the contract.

The purchasing agent should also know that if he makes known to the vendor the purpose for which he intends the use of the vendor's material, there is a legal and implied warranty that the material is fit for this purpose and the vendor must conform to the uses to which the material is to be put. The purchasing agent must realize that if he purchases materials from the vendor which are known by brand or trade names, the vendor is relieved of this obligation since the purchasing

agent is supposed to know the qualifications and potentialities of such commodities.

Naturally, if the purchasing agent buys by specification, the vendor in fulfilling the contract is assumed to adhere to the description in the furnishing of a competent commodity. Likewise, purchase by sample implies that the vendor shall and must adhere to the innate specifications of the sample and in event of violation the purchasing agent has the legal right to sue for breach of guarantee.

Obviously, there are many loop-holes and ramifications in the law encountered by the purchasing agent in his day-to-day purchasing. Such legalities as fraud, cause for cancellation, contractual interpretation and alterations, and procedure are matters for the company attorney. The purchasing agent must never assume that his office is that of a corporation counsel because of his position as liaison between the vendor and the company. It is sufficient that the purchasing agent have a steady grasp of the fundamentals listed above so that he may avoid the more common entanglements. Most concerns protect their purchasing agent by having all forms and contracts as items of standard specification which enables the company to avail itself of competent legal advice in the initial drawing-up. It remains for the purchasing agent merely to use common sense in his vendor relations, knowing that in

any serious difficulty he can call upon company counsel for advice. Most concerns are wise in wishing this since there is nothing that will lower the efficiency of a purchasing agent as being bound to an observance of myriad petty details.

7. THE MECHANICS OF THE PURCHASING PROCEDURE.

Organization.

It has been well, I think, to acquaint ourselves with the various interdepartmental relationships and contacts of the purchasing function. A clear understanding of them will make for better efficiency in the organization of a competent purchasing department. There is no standard purchasing system as yet devised to meet the needs of every business. It remains for the purchasing agent in the selection and training of his staff to observe certain fundamentals and then allow the staff to mold itself according to the dictate of utility.

However, it is this very lack of a standard system that leads many purchasing agents astray. Too prone are they to over-emphasis upon organization. That this is a fact can be attested to by the very strong words of John C. Dinwiddie, who claims, "It is my firm belief that the importance of the mere mechanics of purchasing is usually over-emphasized."

Over-organization is nothing more or less than interdepartmental stragulation, since every text-book and its author points out the need for systematic simplicity. It seems logical that a system that is efficient, and contains a minimum of opportunities for error, can, in every instance, be worked out with comparatively little duplication of work.

It is evident that the cost of organization will be charged against the department's economies in other lines, and it is really unreasonable for the purchasing agent to organize in such a manner that the cost of the purchasing procedure is excessive.

Adopting the staff.

I have mentioned the purchasing agent's duty with regard to selection of the staff. This needs clarification. It goes without saying that the purchasing agent himself is a selection of the management and responsible for the possession of those qualifications which led to his appointment. It is also true that in most instances the purchasing agent's staff is a result of managerial selection. Therefore, when I spoke of the purchasing agent's duty along the lines of organization, I referred to his duty of accepting these managerial choices and either rejecting them, upon trial, as unfit, or else molding them into a systematic unit.

This, then, is the duty that eventually becomes more important than the mere selection of an employee. It is the adapting of that employee to the company's system, and in such a manner that he becomes an integral and responsible step in the routine of purchasing procedure.

Since the purchasing agent himself eventually formulates his department's policy and methods, he is the logical

man to hold his staff upon the lines he has laid down. In so doing he must realize that his personnel is human and not mechanical. For this reason he should try to rule out as much of the human element as possible. In doing this he will find that certain principles will help in adapting his staff.

He should first make each member of the personnel acquainted with the part he plays in the procedure as a whole. This is understandable since a chain is as strong as its weakest link, and the purchasing agent's objective strength lies in the shortest, easiest manner in which he can accomplish results.

Since good purchasing needs to be definite to effect results and obviate friction, duplication and general confusion, it is well from a point of policy to fix the responsibility for each step of the procedure. This makes for harmony among the employees as well, for when error creeps in there is no call to distribute the censure, since the point at which the error occurred is definitely fixed. Industrial management realizes full well the need for harmony among employees. This realization should be shared by the purchasing agent. Again we find that John C. Winsmore is aware of such need for he says, 'There is more profit in keeping a happy worker in a system that isn't perfect, than to install a perfect theoretical system antipathetic to the worker.'

Finally, the purchasing agent should make his system

so elastic as to allow for expansion and contraction. This very elasticity and knowledge of each other's certain duties will enable the personnel to hold operation cost at a desirable minimum. Readily is it admitted that the purchasing agent should spend no time in training a moron. But on the other hand, he should not spend too much time in running over the student of theory to the practicability of the company's purchasing system. The purchasing agent's greatest contribution to the company lies in his adapting of the staff to the company policy. A staff thus trained and grounded in all the complexities of the concern's policies is willingly admitted to be worth much more than theory.

Procedure.

PERSONAL DUTIES OF THE PURCHASING AGENT.

In the course of the purchasing procedure there are certain duties to be performed by the purchasing agent himself, which he cannot, or should not, transfer to any of his staff. It is true that a purchasing agent could build such a system, and train his staff to such a degree, that his own duties would be correspondingly lessened to the point where he would become merely a rubber-stamp, or at most engage only in those duties which could not possibly be shifted. Some purchasing agents, it is true, do practice this as a means of lightening the burden upon themselves because they are unwilling to concern them-

values with any detail whatever. This is done is known as an "executive complex" or the part of a purchasing agent, and in plain words becomes more or less a shirking of duty.

The purchasing agent is a trusted and often times an executive employee of his company and owes the company the full value of his services. Among the non-transferable duties of the purchasing agent himself, we will amplify only the more important.

Interviewing salesmen.

Since the purchasing agent is primarily a buyer it is only natural that there are salesmen anxious to contact him. In fact, the average purchasing agent receives calls from more vendors than he could possibly patronize. However, the purchasing agent must realize that these salesmen can render him certain definite services which he cannot ignore. From them he can obtain valuable market information, ideas on merchandising, commodities and other details which may be of inestimable value to him. For these reasons he should be willing to see salesmen even if he has no idea of making an immediate purchase of the commodity which the salesman carries.

Naturally, however, the purchasing agent cannot devote all his time and energy to interviewing salesmen. For this reason the establishing of certain hours when salesmen may call will be of great aid to him in apportioning his time.

Duties.

In large companies where the number of calling salesmen is rather large, it may be of benefit to the purchasing agent to have a clerk who interviews the salesmen as to the object of their visit. In such a case only important or recognized salesmen will be interviewed by the purchasing agent himself. The purchasing agent must make sure that such a clerk is more capable of tact than anything else, for the method with which this clerk handles the salesmen will be naturally assumed to be the department's policy.

A large number of salesmen, however, generally wears a large number and variety of ideals, sources of supply and reciprocity. We have discussed the value of these policies already. We know that the purchasing agent in his relations with salesmen can often bring about the accomplishment of these ideals so beneficial to himself and to his company.

Finally, it has been found to be a good policy on the part of the purchasing agent to recognize a salesman as a man with a job to do and a possible source of ultimate benefit to the purchasing agent. The recognition and observance of this policy will make for more cordial and business-like contact between buyer and seller.

Supervising the department's station.

By and large, the efficiency of the purchasing department is taken as a reflection upon the purchasing agent himself. It is also a norm by which its benefit to the company as a whole

may be gauged. We have already seen the obligation of the purchasing agent in adapting the staff to the company's policies. We have also seen the note of the fact that no fast and true system of purchasing procedure has yet been devised. It remains therefore, for the purchasing agent not only to establish his system but also to keep close supervision over it. Responsibility or censure for inadequacy cannot be shifted to the staff in cases where policy or method are involved. They can only be blamed for errors of commission or trans action.

Industrial management, therefore, puts the matter of organization and supervision squarely up to the person to whom it belongs - the purchasing agent. As a matter of self-protection, the smooth running of the department is of immediate concern to the purchasing agent. He alone knows what he plans to do and accomplish. It is thus his duty to effect the most systematic means of accomplishment. The mere setting up of a system may not be enough. It becomes necessary to keep strict watch over the proper functioning of that system so that not changes and revisions may be made in it to correspond with changes in policy.

Generally, however, it is the case that supervision will create a department that will eventually function automatically. This is a desideratum of scientific industrial purchasing but can be effected only after the proper install-

ation and supervision of the company system. It is to the advantage of the purchasing agent and the company to accept this consideration as a means of lightening the burden upon the purchasing agent. It leaves him more time to effect more economic benefits for his concern.

Interdepartmental conferences.

We have seen the necessity for cooperation and coordination between the various departments. It seems unnecessary to remark that the purchasing agent should not expect to sit in or listen in matters of purchasing, merchandising, production, finance or company policy. True it is, that in some cases a valuable assistant may be able to take care of purchasing and production relationships, but the purchasing agent is primarily interested in advising, and obtaining the advice of, the purchasing agent himself.

It often happens as a result of interdepartmental conferences that a change in company policy has occurred. In this instance it becomes the duty of the purchasing agent to readjust his system to the change in policy.

The purchasing agent does not want to be excused from a strict observance of interdepartmental conferences and reports. He has a full realization of their contribution to efficient management as a whole.

Building the Goodwill, 1900-1934.

There is a very certain, but indefinable, intangible something which every company strives to obtain, and once obtained, seeks to maintain. It is good-will. It cannot be measured in terms of dollars and cents and yet its value in terms of dollars and cents is tremendous. So much is this so, that that company that loses its good-will loses one of its most precious possessions.

In common with other members of the organization, the purchasing agent must be alert to the proper guarding of that good-will. In his various interviews with salesmen he must conduct himself in such a manner as to never antagonize them, though refusing them. Lewis says, "A disgruntled vendor can do very much to impair the good-will of any company."¹ He must make salesmen realize that he cannot buy from everyone who solicits his business, but he must leave the salesman in such a mood that the latter will think he has a good chance of obtaining future orders. It may be necessary from time to time to patronize those vendors for the sake of keeping them contented, for nothing will antagonize the vendor like the threat or waiting for promises that never materialize.

1

"Industrial Purchasing," N.C. Fairbanks: 1910-1911, Inc., 1933.

In obtaining refunds, credits and damages, the purchasing agent must act in such a way as to impress upon the vendor that he is acting merely as a fair business man and not as a highwayman. The purchasing agent who is headstrong and unreasonable in such demands finds that all vendors will look askance at him as a man who will go to any lengths to strike a hard bargain. Most vendors want the good-will of the purchasing agent but not at the expense of considerable loss to themselves. Gentlemanly action and courteous treatment of these matters will obtain the purchasing agent the end for which he is working without leaving behind a trail of disgruntled vendors.

Indigestion and dyspepsia are never excuses for surliness in extra-company relations. The purchasing agent must realize that he is primarily a representative of the company entrusted with its best interests. Observance of the necessary niceties of common etiquette, together with a realization that he should treat vendors as he would have them treat him, make for a more contented and popular purchasing agent. The popularity of the purchasing agent is an integral part of the company's good-will. He should strive by every means to foster it, not for the satisfaction it will mean personally, but for the benefit it will bring to his concern.

In connection with the guarding of the company's good-

will, a certain undesirable phase of purchasing must be considered. It is the acceptance of gifts from vendors. In many cases it assumes the proportions of nothing more or less than commercial bribery. Of course the occasional acceptance of cigars or the like does not constitute bribery. After all, a vendor has the right to thank the purchasing agent for his order and show his appreciation in some small way. It is in those cases where the vendor's gift is in anticipation of an order that the ethics of purchasing is involved.

There can be no gainsaying the fact that certain vendors are not averse to offering valuable gifts to the purchasing agent in order to influence his decision. Neither can there be any gainsaying the fact that certain purchasing agents are not averse to giving orders to the most generous vendor. The purchasing agent who makes a practice of this commercialism will eventually lose his position if his company hears of his actions. In any event, and even if his concern is unaware of this "sub rosa" practice, the news will get around among the vendors and may result in a boycott of the purchasing agent as untrustworthy.

Most men like to receive gifts and think they are very popular. The wise purchasing agent can make a distinction between bribery and gratitude. He very soon should realize

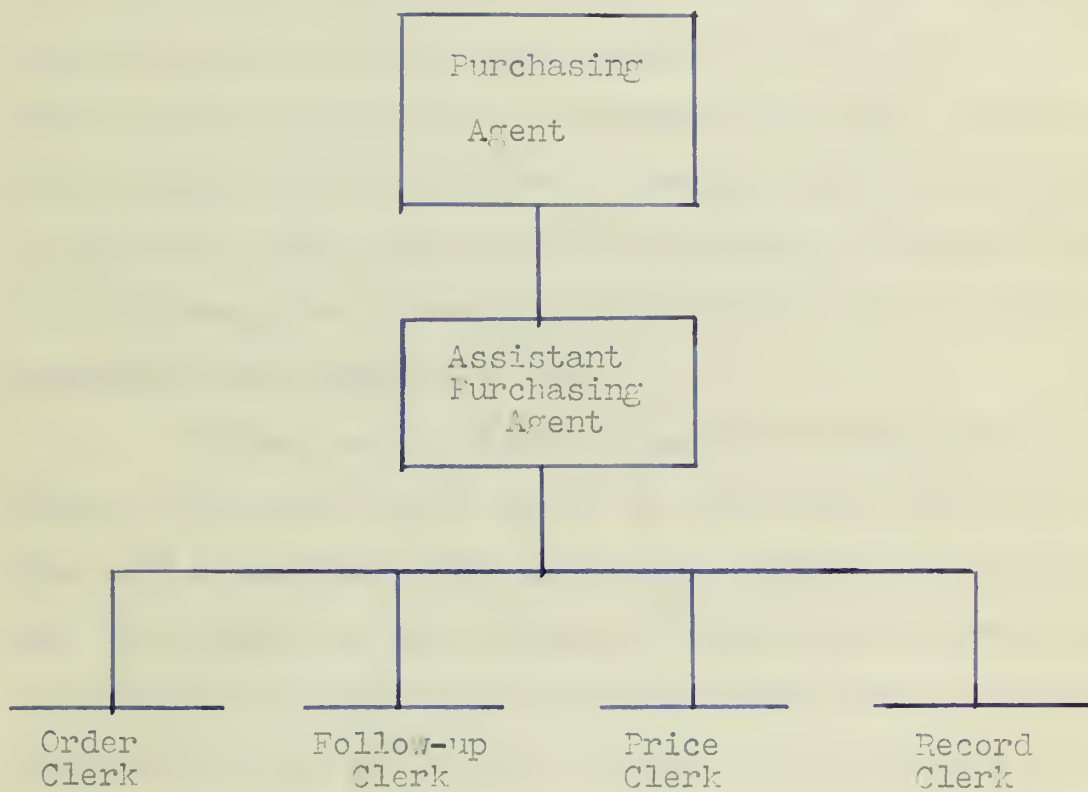
that his popularity isn't due to himself personally, but to his position with his company. He should not attempt to trade in on that position with the resultant evil effects such trading would have upon the company. If he doesn't care what vendors think of him personally, he must at all times consider the effect of his actions upon the good-will of his company.

Duties of the Personnel.

On the next page of this thesis can be found a diagrammatic set-up of the medium sized purchasing department. Of course a smaller concern can consolidate one or more of these functions into one man as the size of the concern dictates. The larger company can break each function into its component parts with a clerk in charge of each phase of that function. However, by a study of the medium sized purchasing department we can get a good grasp of the workings of the personnel.

Assistant purchasing agent.

In most companies, and whatever the title, can be found an assistant purchasing agent. His duties are just what his title indicates. In most cases he is charged with the purchase of those materials which do not need the ability or experience of the purchasing agent himself. True, his duties need no amplification beyond the note that in his buying he observe the rules of scientific industrial purchasing even as his superior. It is also his duty to be liaison officer between the rest of the employees and the purchasing agent. In this regard he may be a strong influence upon supervision. Thus, when acting in the absence of the purchasing agent he is to be regarded as authoritative in matters of discipline. This is true also, when he acts in the interests of the purchasing agent.



Organization Chart for a Medium-Sized
Purchasing Department

It seems needless to remark that due to his superior position on the staff he should not be inclined to abuse or assume authority.

Order clerk.

This clerk has the duty of transferring the requisition of some department to a purchase order which is to be sent out to some desirable vendor. From experience, or by consulting the records, it is his duty to find out if the amount of the requisition is ordinary and usual. By the same means he will find the choice of vendor, since in most cases in which the order clerk has the latitude of ordering everyday purchases, the source of supply remains the same for many months and even years at a time.

Having established the amount of the material to be ordered, and from whom it is to be purchased, the order clerk makes out a purchase order and hands it in to the purchasing agent for approval. At the end of each day, in normal cases, the purchasing agent hands back the signed order which the clerk proceeds to mail to the vendor. This approval of the purchasing agent is mostly perfunctory since the purchasing agent realizes that the competent and experienced order clerk knows as much about these small details of the small purchase as he does.

In those instances where "rush" orders must be made, the clerk goes through the same procedure with the exception

that the order once established is generally telephoned with a plea for speedy delivery.

Follow-up clerk.

Once the order is in the mail, the next problem becomes one of delivery. It is the duty of the follow-up clerk to check up on each order that leaves the office, noticing the date of delivery specified on it. He is then on the look-out for an acknowledgement of the receipt of that order by the vendor together with the promised date of delivery. This is kept in careful file, and contact with the receiving department will acquaint the clerk with the actual delivery. In some cases when delivery is held up, and where the receiving department has no record of delivery of a certain item, a telephone call to the vendor, if local, or a letter asking about shipment will tend to speed up delivery. Obviously, this call or letter cannot take place on the actual date when delivery is expected because then it would be too late. It is the duty of the clerk to mark on his record of the purchase order the date when delivery is needed, and the date when the vendor must be contacted in the event of no delivery. Obviously, therefore, this date of vendor contact will be several days prior to the date of actual need to allow for any eventualities or delays that might have arisen in regard to shipment and delivery.

Since I believe in the complete independence of the

traffic department, I think that a lost or strayed shipment should be turned over to the traffic department by the follow-up clerk. Such contingencies are matters for those experienced in traffic problems. It is enough if the follow-up clerk acquaints this department with his troubles and allows it to carry on from there.

Invoice clerk.

The next and logical step in procedure is the receipt and disposal of the invoice. The invoice clerk must find out if the vendor's bill agrees in the quantity of material with that amount registered by the receiving department of his own company. In the event of difference, the vendor must be contacted and the difficulty straightened out. In these cases it is better for the clerk to ask for a corrected invoice from the vendor.

From past records the clerk can ascertain if the price charged is in line with past prices from the vendor. It is his duty to notice if there is an appreciable, definite difference between this price and that of other recorded invoices. In cases of major differential the same procedure of contact and corrected invoice is to be followed.

Finally, if the terms and discount agree with past performance or with the quotations submitted, it is the duty of the invoice clerk to tender the invoice to the purchasing agent for approval so that the treasurer may receive it in time to

take advantage of the discount terms. Again this action of the purchasing agent is perfunctory since he can be reasonably certain that when the invoice reaches him it is in perfect condition. It is the duty of the purchasing agent to consult the treasurer and arrive at some system whereby the invoice clerk can know what invoices the treasurer wishes to discount. The financial department has found that a strict check upon the movement of the invoice should be made after its receipt by the purchasing department. For this reason most treasurers cause to be drawn up what is known as an invoice record sheet. Upon this record is kept a list of the current invoices to be discounted by the treasurer and the date upon which he wants them. A copy of this is in the hands of the invoice clerk as an assurance that he comply with the demand of the treasurer and know what invoices must be given preference in the matter of timely handling. This is one phase of purchasing procedure wherein an extra-department head, the treasurer, can dictate policy to the purchasing department.

In companies where a number of copies of the invoice are needed for the various departments, it is the duty of the invoice clerk to ask the vendor for the requisite number of invoices, or else type those extra copies needed. The files of the purchasing department should always contain copies of every invoice that has been handled within a reasonable up-to-date period.

Record and file clerk.

We have seen in our treatment of the duties of the personnel, the many cases wherein the clerks must refer to the records. It goes without saying that the purchasing department without adequate records and files is not a systematic purchasing department. It is always best to have a clerk in direct charge of these records and files because by having someone make a full-time work of this phase of procedure, the best interests of the organization will be served. It is up to the record clerk to file all important correspondence, records, data on past performance, invoices, purchase orders, requisitions, quotations and bids. An up-to-date and comprehensive filing system is a boon to the purchasing agent. It doesn't harm any if the record clerk is a typist, as they generally are, so that he will be occupied in typing much of the correspondence and records over which he is supposed to maintain vigilance.

Such items as reputable vendors with whom the company has done business, sources of supply, prices paid, amount purchased and the length of time actually required for the delivery of any commodity are facts which can be at the finger tips of any purchasing agent who maintains a competent system of filing.

Unity.

It is axiomatic in every line of endeavor that teamwork and coalition are the forces behind every success. This

is especially true in industry. A good purchasing agent must rely upon cooperation from his employees. Antipathies, personalities and grudges must not be tolerated within the precincts of the office. True, a purchasing agent cannot legislate human failings out of existence, but he can insist that coordination and friendly cooperation be the key-words for his staff.

By determining the responsibilities of the various clerks, and by allowing no other clerk the authority to interfere with the normal execution of another's duties, the purchasing agent will do much to aid eliminating personal strife. For when every clerk has a definite responsibility, and an idea of the part he is playing in the whole, there is every chance of unity resulting from personal pride on the part of each clerk to do his part well.

It may happen, and does, that a purchasing department is so well unified and on such a friendly basis, that, paradoxically, it will be unfriendly to other departments. This happens many times and cannot be allowed to exist. A good purchasing agent must insist upon friendly interdepartmental relations as a means toward coordination in the company as a whole. His entire staff should be ever ready to cooperate in handing out information, facts and figures to those of other departments who need and ask for them.

In short, let the purchasing agent teach his clerical force that they are part of a gigantic whole and therefore must treat others seeking information as they themselves wish to be treated in interdepartmental relations. The purchasing agent must be foremost and always a business man who realizes the importance of maintaining friendly contact with other departments. After all, the purchasing department is only one phase of industrial management and cannot operate profitably and efficiently unless it is contributing to the efficiency of the entire company.

Measuring purchasing efficiency.

Industrial management has always been alert to gauging the efficiency of the various departments in a company. These measurements were comparatively easy to be worked out since the matters of the efficiency of the production and sales departments, for example, can be measured by tangible results and exact figures which management ascertains regarding the operation of these departments. But the measurement of the efficiency of the purchasing department is a comparatively new development and is a procedure in which the National Association of Purchasing Agents itself is interested. Many systems were devised for such measurement and finally rejected as incomplete gauges or too cumbersome methods.

One method started from the assumption that purchasing

could not reach an efficiency standard of 100% (which is admitted) and so made concessions that resulted in an inadequate measurement. A second method took in the number of salesmen interviewed, the length of time of each interview, the amount of correspondence handled, etc., so that the measurement became too involved and complicated to be considered.

Finally, however, a system was adopted by the Association itself and the operation of it is as simple as it is comprehensive. It starts upon the assumption that although 100% represented perfection beyond attainment, still it should be the goal towards which the purchasing department should strive. The result was that a fine measurement could be had of the purchasing department in relation to the unattainable perfection of 100%.

The factors to be considered in this plan are essentially four in number: (a) the price of things purchased; (b) departmental expenses; (c) cost of delays and errors; (d) storage. The cost of material includes the prices of materials in excess of the average market price as a debit, and the savings over the market price as a credit. The losses and errors were a blow to the purchasing agent but they had to be considered as such in measuring efficiency. Mistakes in ordering, wrong specifications, goods lost and returned without satisfactory adjustment with the vendor; all these went into the debit column. The result of this was a formula that is very accurate

as a cause of efficiency. And so fair is it, then the Association itself is one of the foremost exponents of the plan. In actual operation it works out like this:

DEBITS.

Prices paid in excess of average market prices:

Lumber	\$ 1,122.85	
Foundry scrap	642.11	
Flour	309.00	
		<u>\$ 2,074.96</u>

Departmental expenses:

Salaries and wages	17,148.10	
Traveling account	318.85	
Stationery, postage, etc.	1,767.24	
Subscriptions, dues, etc.	285.00	
Rent, heat, light, equipment	3,750.00	
Telephone and telegraph	3,420.18	
Excess charges over cheapest means of transportation	3,144.37	
		<u>\$ 25,833.15</u>

Departmental deficiency:

Losses and errors	230.44	
Deficiency in returned goods	1,120.90	
Cost of delays:		
Total orders placed	26,897	
Departmental expenses \$ 25,833.15 (above)		
Cost per order . 9727		
2,816 orders ruined at .9727 each	2,738.12	
		<u>\$ 4,490.46</u>

Expense of carrying inventory:

Average inventory \$ 362,101.72		
Estimated cost of carrying at 12%	43,452.21	<u>43,452.21</u>

TOTAL DEBITS \$ 78,772.60

CREDITS.

Savings on average market prices:

Iron	\$ 1,681.78	
Coke	418.28	
Coal	2,112.36	
Linseed oil	,142.21	
Steel	4,050.70	
Belting	764.39	
Oils and greases	<u>1,681.06</u>	
		13,420.58

Substitutions and savings,
approved by management

4,100.00 4,100.00

Revenue from scrap and salvage

1,310.56 1,310.56

TOTAL CREDITS \$ 20,231.14

Net Cost of purchasing (as above) 52,871.16

Total debits as above 75,102.60

EFFICIENCY

Total purchases for year	\$ 1,324,567.79	
Total purchases divided into		
net cost of purchasing (\$ 52,871.16)		.0477
Standard of perfection		100.00
Percentage of inefficiency		.0477
PURCHASING DEPARTMENT EFFICIENCY		95.23 % (1)

1 "Lewis", T., "Industrial Purchasing," pp. 322-323. New York:
Prentice-Hall, Inc., 1933.

M U N I C I P A L P U R C H A S I N G

Now that we have discussed the details, relationships, utility and benefits of scientific industrial purchasing, I do not think it would lead us too far afield to devote a moment to a discussion of scientific municipal purchasing as a distinct advantage to the structure of municipal government. It is regrettable that a gentleman like Russell Forbes, whose vast knowledge of scientific purchasing procedure and its advantages led Mayor LaGuardia of New York City to break a precedent and appoint him purchasing agent for the largest city in the world, is forced to remark, "From the very beginning of our political history, the purchasing of material has been one of the bulwarks of the spoilsman."

A considerable part of the city's total expenditure goes every year for the purchase of equipment, materials and supplies. As a rule this amounts to nearly a third of the entire operating budget. Every city has to maintain commodities in almost infinite variety, -fire-fighting equipment, police uniforms and accoutrements, street-cleaning machinery, trucks, motor cars and gasoline, coal, oil and fuel for public buildings, paper, ink and office supplies, books for libraries, equipment of a technical nature for hospitals: -there is no end to the number of things which a city is called upon to buy.

Until about twenty-five years ago the purchasing of this equipment, etc., was left to each department. The head

of a department, or someone authorized by him, merely sent out and bought what was needed. Each department used its own specifications and paid whatever price it saw fit to pay. This practice, of course, resulted in a great deal of overlapping and waste to say nothing of bribery. The wonder is that it was tolerated so long. Sometimes a dozen dealers at a dozen different prices and with wide variations of quality. The same was true of the purchase of many other supplies in which prices for identical articles ranged from fifty to three hundred per centum in cost to the city.

Every department, moreover, had its own friends, its own favorite vendors from whom it bought at their own prices. Seldom did any city get wholesale rates or discounts. The purchase of supplies, in a word, was looked upon as a form of patronage to be doled out among those vendors who had the favor of someone in the administration. Sometimes the purchases were made from people who carried on no business at all, - politicians who merely bought at even prices and then added their profit. The waste involved in this arrangement was very large. It meant that cities were paying from thirty to fifty per centum more than was necessary.

Though these outrages have been curtailed to a degree it would be folly to suggest that they have been entirely

eliminated even at this late date.

Recent appreciation of municipal purchasing.

It is to the credit of some municipal administrators, and not to the public at large, that there has been a recent and strong appreciation of the procurement function in municipal purchasing. We have just mentioned how the Mayor of New York City went out to find the business man he could as purchasing agent for New York City. Right here in Boston, the Mayor sent an appeal to the National Association of Purchasing Agents to aid him in locating the best available industrial purchasing agent as purchasing agent for the city of Boston. The selection of Warren W. Loomis in 1933, resulted in an avalanche of approval from business men in Boston who know that a sincere and business-like municipal purchasing agent is a separate and distinct advantage to sincere and lawful vendors.

And there is good reason why municipal government should consider the proper running of a city as big business. True, the multitude and diversity of municipal purchases are distinctly more diversified and unrestricted than those of any single company, but there is no reason why the principles of scientific industrial purchasing should not hold in the municipal function.

A business purchasing agent at the helm of a city's buying knows that although he has no production or finished

product to contend with,-yet his " commodity " could be definitely labeled as " public service."

Procedure.

If the municipal administrator who appoints him will sanction his authority to organize on a business basis, the purchasing agent will find the way open to vast economies in municipal expenditures.

His first duty will consist in setting up a separate administrative department, or a special purchasing bureau within one of the regular departments. Large cities usually pursue the former plan while smaller municipalities content themselves with a purchasing bureau attached to the office of the city manager, city comptroller or city clerk. This will bring about the elimination of departmental buying whereby the head of each department did his own buying.

Once he has established this system, the procedure in securing equipment, material and supplies will to an extent follow industrial principles. Each municipal department when it needs anything is required to prepare a requisition stating the quantity and quality of the goods desired. These requisitions are made in duplicate on standard blank forms. One copy is sent to the purchasing office, the other is kept on file. On receiving a requisition the purchasing agent proceeds to get what is called for. He may do this by advertising and open competit-

since economy in city government reacts to the benefit of us taxpayers as stock-holders in municipal administration.

Advantages.

One of the advantages which come from scientific, centralized municipal purchasing is the saving of time and effort in the various departments. When each department buys for itself, there are likely to be several officials spending their energies on the same job at the same time, looking up prices, examining samples and negotiating for the purchase of essentially the same supplies. The study and time they spend in doing this are taken from their regular work and the city pays for it. A considerable saving can be made by having the work concentrated in a single office.

Another advantage arises definitely from the possibility of standardizing all supplies and material which are in general use. Under the system of haphazard purchasing each department follows its own particular whims. In one city it was found that nine different kinds of carbon paper were in use, varying in price by more percentage than was possibly justifiable. One of the first things that a scientific municipal purchasing department has to do is to draw up sets of standardized specifications covering all routine materials and supplies which are used by several departments. These specifications are prepared in consultation with all the de-

ion, or by informal competition without advertising, or in some cases without competition at all. When the amount involved is large, and when time permits doing so, the usual practice is to advertise for bids. But if only a small quantity of something is needed, or if there is great and immediate urgency, the purchasing agent may ask for informal bids by telephone from dealers who are known to have the material on hand. Purchases without any form of competition are usually restricted to materials and supplies which are sold at fixed prices, including patented items which can be obtained from one source only.

Of course, according to the functioning charters and ordinances of various cities, there are numerous and widely varied regulations regarding competitive bidding, sealed bids, contracts, etc. The discussion of these would lead us to a study of municipal administration. Suffice it to say that according to his own city's ordinances, the scientific purchasing agent should follow sound industrial principles in the execution of the provisions therein.

His staff and its relations to other functions such as inspection, finance, law, etc., will follow the form of industrial purchasing's principles and contacts. However, the advantages of scientific procedure in municipal purchasing are of more interest to us than those of industrial purchasing,

partments concerned. They are asked, for example, to agree upon some brand of carbon paper which all the city offices will use thereafter. This can be bought in large quantities, at a favorable price and of a quality that is guaranteed to be up to specifications.

Assistance is also had by studying the specifications which large industrial concerns and public utilities have put into use. When standard specifications have finally been adopted and approved by the purchasing agent, all future bids are made on this basis. Materials will be rejected if they do not conform to the specifications.

This practice of standardization has various advantages in addition to that of promoting economy. Standardized equipment and materials can be easily interchanged between departments,- between the street and the park departments for example. One can use the surplus of the other. So too does standardization make inspection a simpler task. The question to be determined is not if the supplies are satisfactory, but whether they conform to the specifications. Likewise it gives every bidder a square deal and removes all temptation to favoritism in making the awards.

Differences between municipal and industrial purchasing.

The very fact that purchasing of material is the " bulwark of the spoilsman " leads to the essential differences between industrial purchasing and municipal purchasing. The most

essential and disastrous difference is the fact that the municipal purchasing agent is an appointee of a politician, and rarely, except in cases like Forbes and Loomis, a selection because of merit, competence or purchasing experience. It is obvious then that the purchasing agent is going to be kind to those men responsible for his appointment.

Since the contracts awarded by a city may reach into thousands, and even millions, of dollars, such a purchasing agent may not so much interested in what is to be saved as in what is to be gained. By that I mean that it is important to him to have the bid awarded to the " proper " person rather than to the correct one. Dr. Charles A. Beard says, " Some of the greatest scandals unearthed in American politics have grown out of the corrupt use of money in purchasing goods and awarding contracts."¹

In industry, therefore, the aim of the purchasing agent is impersonal. He wants to know how much money his company will save. In municipal purchasing the standard more often is, "How much will I gain."

A second disadvantage of municipal purchasing, and an essential difference from scientific industrial purchasing, is the policy of " to the victor belongs the spoils." This may eventually lead to the dismissal of both Forbes and Loomis. By that I mean that, though one municipal administrator may ap-

1

"Administration and Politics," p.7. New York:

Macmillan Co., 1923.

point an honest, competent and experienced purchasing agent, the appointment may be short-lived. If such an honest administrator is defeated for re-election, or is prohibited by law from succeeding himself, his successor will probably discharge the competent purchasing agent and appoint his own choice - whether he be competent or not. Thus there is never a chance to install and keep installed a definite and unchanging system of correct purchasing porcedure. It is apt to be changed every few years, and generally for the worst.

In industry, honesty, experience and length of service are valuable factors in aiding the industrial purchasing agent to hold his post throughout the years. This leads to the adoption, inauguration, and conduct of a purchasing system that will remain throughout the regime of the purchasing agent, and if especially scientific, the system may continue after him.

In municipal administration, however, too much honesty and competence may be the very reason for the removal of a purchasing agent upon a change of administration. It can be further said that any system he might have inculcated will be removed with him.

For more than thirty years the need for honest and scientific municipal purchasing has been recognized. Politicians now and then have made slight efforts toward scientific purchasing as a sop to the indignant public. But they have

never gone the full distance. It was only a few years ago, in 1933 to be exact, that Mayor Mansfield of Boston appointed Loomis the business man to the post of purchasing agent for the city of Boston. And at that late date, even though such an honest appointment was a need fully recognized in municipal government throughout the country for thirty years, the business men of Boston were delighted beyond measure. In fact the Christian Science Monitor waxed joyous over the appointment as a body blow to politics. Imagine it! Men rejoicing because something honest had been done! Rufus Steele, commenting in the Monitor said, " Boston Political circles are treated to a sensation by Mayor Mansfield. He goes outside the city, outside his party even, and appoints Warren W. Loomis as municipal purchasing agent. The new Mayor makes the choice on recommendation of the National Association of Purchasing Agents, which was asked to find him the very best man. Mr. Loomis will spend about \$ 4,000,000 a year for the city and more,-- brave Mr. Mansfield, benefiting Boston, sets an example for the nation."¹

There it is,- an indictment of the appointments that had been previously made in Boston and throughout the nation at large. I hope I am not cynical, but rather skeptical, in saying that this nation under the political system in vogue, will never see a continuous and uninterrupted series of business-like municipal purchasing agents. The best we can hope for is an adequate and honest selection every number of years.

PART THREE
CONCLUSION

CENTRALIZATION

One of the desiderata of scientific purchasing, and the end toward which industrial management is tending, is centralized purchasing. There are two phases of this question that must be considered. The pertinent question very soon becomes, " How far should purchasing be centralized under one head? "

Within a company itself, the question is being answered by industrial management and by the proven efficiency of the purchasing function. Industry has had too much experience with loose and haphazard purchasing loosely organized, not to become convinced of its inadequacy. Having a dozen or more individuals within a company with the authority to purchase their needs leads to nothing but duplication of effort, wastes and inefficiency. There is no uniformity in the quantities ordered, in the brands or grades of material used, in the time of purchase and delivery, or even in the purchasing procedure itself. In some cases the accounting department found great difficulty in securing checked invoices, much less locating the person or department responsible for a particular purchase.

There is the word that sums up the whole argument for centralization,- responsibility. It is to the advantage of industrial management that it be able to fix the responsibility for

any step in industrial organization. This, management can do if organization is centralized and the purchasing department located in one department and under one head. If industry admits that purchasing has become a major function, then organization must accept it as such.

However, it is not sufficient merely to create a purchasing agent whose sole responsibility is purchasing as a matter of clerical routine. Centralization implies that all the responsibilities of industrial purchasing be invested in a major officer. His must not be responsibility alone, he must also have the authority to pursue the principles of purchasing which will mean so much to his company.

When both the responsibility and the authority have been centralized, it is the duty of management to give him full co-operation and backing. We have seen what the personal duties of the purchasing agent are. It is the duty of the management to allow him full power in the execution of those duties. When purchasing is thus centralized, and co-operation is offered by the other departments, the full advantages of centralized purchasing can be realized.

The advantages of undivided responsibility, maintenance of a consistent buying policy, and the largest possible buying power as a means of influence upon the vendor are great. With centralized purchasing all records referring to purchases are

in one place and under one supervision. This works economy both in the compilation and consultation of records, and permits quick and effective advantage to be taken of changing market conditions. It also points the way to a standardization of specifications which we have already discussed at length; and the eliminations regarding slight changes in quality and material called for, which may be great.

Centralized purchasing tends toward reduction of inventories that must be carried and the consequent saving in investment. Moreover, centralized purchasing means lower selling costs to the vendor since there is only one purchasing agent to be solicited and pleased, and this eventually is reflected in a lower buying price. These are matters of economy and policy that cannot afford to be overlooked by management. It is not for the sake of giving a man an important position within the company but for its own benefit that management realize and enforce the principles and outlines of centralized purchasing.

The second phase of the centralization question concerns those companies which operate more than one plant. The problem then becomes one of finding the proper buyer for the entire company and its branches. The advantages of centralized purchasing must then be weighed against the geographical location of the plants; the heterogeneity of the products manufactured by each plant; the type of materials forming the bulk of

each plant's purchases; whether each plant's supplies can be bought in large volume and are peculiarly susceptible to market conditions; location of sources of supply in relation to each plant, etc.

Just as management should hasten to install and enforce centralized purchasing within a company with only one plant, so too must management be quick to reject centralized purchasing when the above-enumerated problems offer such a degree of differential that one man could not possibly do the buying for the plants also. In this instance a separate purchasing department should be located in each plant for the best interests of the mother company.

However if the plants are localized; if there is a homogeneity of product; a sameness of purchasing requirements; then one purchasing agent should do the purchasing for all the plants. It makes for fluidity of organization, and eventually, enormous savings. L.P.Alford satisfies when he remarks, " Centralized purchasing should be the absolute rule for any single company. Also when there are two or more plants for which a centralized purchasing department in the main branch can do the purchasing adequately, then centralized purchasing should be the rule."¹

The problem of centralization therefore, becomes a matter for individual companies and not a subject to be de-

cided in text-books. It can be said though, that when feasible, the centralized purchasing system will react to the favorable advantage of industrial management.

2. LIMITATIONS OF THE PROCUREMENT FUNCTION.

There are some purchasing agents and theorists, notably Howard T. Lewis, who cannot shake the conviction that purchasing is the prime function of industrial management. Some go so far as to hint that it would not be a bad policy to have every company entrust the purchasing agent with the supervision of each department in his contacts with them.

That this is folly is indisputable. True, there are certain and definite advantages to be derived from effective purchasing but certainly other executives within a company are bold enough to believe that they too are effecting equal advantages in the execution of their own particular functions.

To me there does not seem to have been a tremendous improvement in interdepartmental benefits accomplished by purchasing merely. The improvement has been an immense bettering of entire industrial management. It seems therefore, that purchasing instead of outstripping the other fixed functions in improvement, has merely kept pace with them. Most theorists who are prone to lionize the purchasing agent as a savior of industry, fail to realize the truth, that though purchasing has shown vast improvement, this improvement has been generally in purchasing itself. By that I mean that the purchasing function has made itself more of a science and less of a haphazard

system of inconsiderate and foolhardy buying. Thus when we speak of the tremendous strides taken by purchasing in the last twenty years, let us keep in mind that those strides have been matched by other functions. The improvement has been in purchasing itself as a result of the realization of the part it plays in the industrial scheme as a whole. Ignorance of these facts will lead purchasing agents and students of scientific industrial purchasing far afield.

For example, let us consider the relations of the purchasing agent with other departments. We have studied them briefly and have found out how the company itself can benefit by interdepartmental coordination. But the purchasing agent who loses sight of the fact that his relationships with other departments are merely advisory, is laboring under misapprehension. In other words he wishes to share in the successes but not in the failures of other executives in the company.

Efficient marketing can never divert attention from inefficient purchasing. The same holds true with regard to production. Procurement can hardly share in the technical problems that arise in the production department. How then can the purchasing agent hope to share in these extra-departmental successes? Does he want to assume the blame also for inefficient marketing? For low sales? For slipshod production?

The purchasing agent who is allowed to continue un-

aware of the weight of his authority in relation to other departments is headed for disappointment unless he is particularly alert to the limitations of his office. Exerting authority that is not his; trying to force the acceptance of his ideas when they have been very carefully considered and rejected; refusal to be advised about any detail of his own system by another department head; these will help to make the most efficient purchasing agent in the world an object of irritation to his fellow-executives. After all, management relies upon the part each plays in the machine. A purchasing agent while contributing to the profits of his company, is minimizing his contribution if he contributes nothing to the coordination and co-operation so necessary to effective management.

3. THE PURCHASING AGENTS.

The purchasing agents of America are proud of the National Association of Purchasing Agents. It is their organization and admittedly one of the finest. Industrial management itself is glad to have its purchasing agents enrolled in such an organization because of the large value such an organization can be, not only to the purchasing agent himself, but also to the company he serves, by equipping the purchasing agent with such information, knowledge and ideas as would be impossible of attainment were the purchasing agent left to himself in the matter of acquiring them.

And in these days of governmental interest in industry; highly concentrated production, competition and merchandising; changes in buying and selling policy throughout our nation; there is need for such organization. True, the purchasing agent today is wont to call himself an Executive Purchaser or some such fancy name, but we can allow for that as reasonable pride in view of the results which they can and have to accomplish through the strict observance of modern purchasing principles and practices.

In their conventions the purchasing agents make the latest ideas and proposals of the vendors and subject them to careful review. In their magazine, the "Executive Purchaser," they make room for an interchange of ideas from all parts of the country and in all branches of industry. There can be no doubt of the value of such information to the ordinary purchasing agent. It allows him, at no special effort on his part, to absorb all the new ideas and ideals which are constantly circling ab-

out industrial management.

The organization has men whose sole duty it is to keep a close watch on governmental actions and proposals in regard to purchasing policies. This forewarns the purchasing agent of any drastic actions or changes that are liable to eventuate as the result of new laws. A good example of this is to be had in referring to the National Industrial Recovery Act, commonly known as the N.R.R., and long since dead as a result of an adverse decision of the Supreme Court of the U. S. This act called for industrial codes that threatened to revolutionize the purchasing agent's position for a time. The government's laws regarding fixed prices, competition, elimination of preferred discounts and trade agreements, would have been overwhelming to the ordinary purchasing agent. However, through its periodicals and bulletins, the National Association of Purchasing agents was able to keep the purchasing agent informed of the different codes as they related to him and his company. This service alone was worth the organizing of such an association.

In these same periodicals and weekly bulletins, the Association keeps the purchasing agent informed of market conditions and probabilities. The fact that such eminent men as Lewis Haney, Russell Forbes, Willis Parker, et al., contribute to them is adequate recommendation of their utility. In other

words such printed and authoritative data will enable the purchasing agent to keep abreast of present policies and conditions. He could ask for nothing more.

As to the future, the purchasing agent looks ahead with shining eye. His place is secure in corporation management, and unless thoroughly abused, his position is likely to be a source of pride to any company. No more fitting tribute could be paid to the hopes, duties and aspirations of the purchasing agent than that of Frederick G. Space, purchasing agent for the Seymour Manufacturing Company of Connecticut. He says,

" Our shadow is reflected by all of us
so long as we are privileged to pursue
our tasks in the broad light of day and
in fellowship with others. Will our
shadow reflect growth and character
throughout the coming years? Will it
leave our impress on those with whom we
deal that will lift us and our profession
before the critical eyes of the business
world ? "

I think it will.

The End.

APPENDIX

BIBLIOGRAPHY

- ALFORD, I.P., editor, "Management's Handbook," Sect. 25.
Ronald Press Co., 1924.
- _____, editor, "Cost and Production Handbook," pp. 343 -
367. Ronald Press Co., 1934.
- BANKS, T.H., "Practical Purchasing Procedure," pp. 8-17.
New York: National Association Purchasing Agents,
1930.
- BEARD, DR. C.A., "Administration and Politics," pp. 105-114.
New York: Macmillan Co., 1923.
- CHASE, S., "The Tragedy of Waste," pp. 262-263. New York:
Macmillan Co., 1925.
- CLARK, F.E., "Principles of Marketing," p. 193. New York:
Macmillan Co., 1932.
- CONVERSE, F.D., "Selling Policies," Chap. XII. New York: Prentice-
Hall, Inc., 1927.
- COURTY, L.H., "Materials Testing," Ref. New York: John Wiley
& Sons, Inc., 1925.
- DEIBLER, F.S., "Principles of Economics," Chap. XIV, New York:
McGraw-Hill, Inc., 1929.
- DINSMORE, J.C., "Purchasing Principles and Practices," Gen. Ref.
New York: Prentice-Hall, Inc., 1922.
- ENGLAND, V.P., "Purchase order Forms," Bulletin # 11. New York:
National Association of Purchasing Agents, 1932.

- FAIRCHILD, I.J., "Specifications," Bulletin # 15. New York:
National Association of Purchasing Agents, 1931.
- FORPES, R., "Centralized Purchasing," pp.8-22. New York:
National Association of Purchasing Agents, 1931.
- "Governmental Purchasing," pp.36-50. New York:
Harper Brothers & Co., 1929.
- GUSHEE, E.T., "Scientific Purchasing," Gen. Ref. New York:
McGraw-Hill, Co., 1928.
- HANEY, L.H., "Business Forecasting," pp.26-54. Boston:
Ginn & Co., 1931.
- HARRIMAN, W.F., "Principles of Scientific Purchasing," Gen. Ref.
New York: McGraw-Hill, Co., 1928.
- HEINRITZ, S.F., "Measuring the Efficiency of the Purchasing
Department," Bulletin # 13. New York: National
Association of Purchasing Agents," 1931.
- HYSEEL, H., "Science of Purchasing," Chap.I. New York:
Appleton & Co., 1922.
- KELLY, F.C., "How Shrewd Speculators Win," Gen.Ref. New York:
Sears Publishing Co., 1932.
- KIMBALL, D., "Industrial Economics," Chap.VII. New York:
McGraw-Hill, Co., 1929.
- LEWIS, H.T., "Industrial Purchasing," Gen.Ref. New York:
Prentice-Hall, Inc., 1933.

- LYON, L.S., "Hand-to-Mouth Buying," Washington, D.C.:
Brookings Institution, 1929.
- MAXEY, C.C., "Outline of Municipal Government," pp. 355-363.
New York: Doubleday, Page & Co., 1924.
- MITCHELL, W.N., "Production Management," Chap. XIV. Chicago:
University of Chicago Press, 1931.
-
- "Purchasing," Gen. Ref. New York: Ronald Press
Co., 1927.
- MONTGOMERY, R., editor, "Financial Handbook," pp. 254-289.
New York: Ronald Press Co., 1927.
- MURPHY, H.D., "Principles of Purchasing," New York: Purchasing
Agent Co., 1933.
- ROBBINS, E.C., "Industrial Management," pp. 290-304. New York:
McGraw-Hill, Co., 1932.
- SIMONS, T.M., "Successful Buying," New York: Pittman & Sons,
1927.
- SORFEL, L.C., "Transportation, Production, and Marketing,"
Chicago: Traffic Service Corporation, 1932.
- STAND, R.W., "Defining the Buyer," Bulletin # 13. New York:
American Management Association, 1931.
- TAEUSCH, C.F., "Policy and Ethics in Business," Chap. XI.
New York: McGraw-Hill, Co., 1931.
- TOSDAL, H.R., "Principles of Personal Salesmanship," pp. 125-126.
Chicago: A.W. Shaw Co., 1927.

- ANTON, F., "Purchasing," Gen. ed. New York: Van Nostrand Co., 1928.
- ITAL, B. J., "Specifications," in Bulletin, N. Y. New York: National Association of Purchasing Agents, 1930.
- WILLIS, J. B., "Purchase Law," Cambridge, Mass.: The Editors, 1938.
- WISSE, J., "Business Administration," pp. 593-594. New York: McGraw Hill Co., 1931.

* 658.7
W62

* 658.7		W62
Wholey		
Industrial + municipal		
purchasing		
DATE	ISSUED TO	
2:10	Ed. Dallas	

BOSTON UNIVERSITY



1 1719 02555 0106

